### LAKE ILO REFUGE.

#### I. GENERAL.

### A. Weather Conditions.

Precipitation was below average for the entire period. There were five killing frosts in May and there has not been a frost in August. The summer has been warmer than normal. Two hail storms occurred in this vicinity - one in July and one in August.

### Weather Data Tabulation

			Tempe	rature
Year	Month	Precipitation	Maximum	Minimum
1952	May	1.45	93	22
	June	2.92	97	34
	July	2.33	97	51
	August	1.87	99	35
	Total	8.57 Extremes	99	22
1951	May	0.64	86	25
	June	2.02	84	35
	July	2. 78	98	52
	August	2.78	100	29
	Total	8.22 Extremes	100	23
1950	May	3.93	83	26
	June	4.31	91	30
	July	0.72	97	38
	August	0.83	91	29
	Total	9.69	97	26

### B. Water Conditions.

The lake level was approximately level with spillway crest on May 1, and has since receded to 18 inches below spillway crest. Water conditions have generally been better than usual. The lake has been used for swimming during most of the report period - usually algae conditions prevent such extensive use.

### C. Fires. None.

#### II. WILDLIFE.

### A. Migratory Birds.

#### 1. Population and Behavior.

The populations of all migratory birds showed a slight decrease from 1951 for the months of May, June and July. It is believed

that the numbers present in August, however, were higher than in August of 1951. Three brood counts were made during the period: on June 23 27 broods were counted; on July 10 53 broods; and on August 12 - 8 broods. The total count, excluding Class II and Class III broods from the second and third counts, was 53. This total brood count was the smallest ever made on Lake IIo. The total brood count for 1951 was 66, 1950 - 128, 1949 - 206, and 1948 - 200.

The estimated population in early July was 2,000; in August it was 12,000 - (5000 Mallard, 3,000 Pintail, 2,000 Blue-winged Teal and 2,000 other ducks - mostly Shoveller, Gadwall and Baldpate). An estimated 3,000 Coot were using the refuge the latter part of August.

The shore bird population appeared to be larger than last year. It is estimated that 3,000 used the area during the period. They consisted of the following - Wilson's Phalarope, Greater and Lesser Yellow-legs, Western Willets, Killdeers, Avocets, Marbled Godwits and Spotted Sandpipers. White Pelicans were present throughout the period - 240 were counted on August 30. More Great Blue Herons, Black-crowned Night Herons and Double-crested Cormorants were present this year than a year ago.

### 2. Food and Cover.

Food and cover conditions are good. It is believed that the dense cover was one factor involved in the lower brood count this year. There will be a good supply of food for ducks this fall because of the short crops and hail-damaged crops that were not harvested.

## B. Upland Game Birds.

It is estimated that 100 Pheasants were on the area at the beginning of the period; and it is estimated that 250 are present at the end of the period. Nesting conditions were good, but there were not as many broods as expected. A large number of very late broods have been observed.

It is estimated that there are a few more Sharp-tailed Grouse present this year. Three broods of Sharp-tails have been observed on the refuge this period - and a number of broods have been observed in the vicinity.

A few Hungarian Partridge have been seen during the period. Three broods have been observed on the refuge during August. It is believed their numbers are about the same as last year.

## C. Big Game Animals.

Two female Mule-deer were observed several times on the refuge and a number have been observed in the vicinity. A few antelope have been observed in the vicinity of the refuge - it is possible a few used the refuge.

## D. Fur Animals, Predators, Rodents, and other Mammals.

A number of Mink and numerous signs have been observed on the refuge this period. It is believed that their population is larger than last year.

More Weasel have been observed this period than usual. It is believed their population is even larger than last year. (Last year it was believed that their numbers were higher than at any time since the refuge was established.)

The Muskrat population appears to have increased from last year - it is estimated that 300 to 500 are now using the area.

No Coyotes of Fox have been observed on the refuge, but a few signs of fox have been observed and several have been seen in the general vicinity. Fox populations on off-refuge areas are higher this year. The Coyote population is very small in this locality.

A number of Beaver have been observed on the refuge during the period. Some damage has been done to trees in the Recreational Area.

Skunks are very numerous on the refuge and in the vicinity. 56 have been trapped near headquarters and along the road to Dunn Center from July 14 to the end of the period. There are still several skunks left, however. It is believed the large skunk population has had an adverse effect on the nesting of waterfowl and upland game birds on the refuge and in the surrounding areas. Five duck nests were found near headquarters and they were all destroyed by skunk. One of these nests, a Mallard's, was in the same place where a Mallard had nested for four consecutive years. It is believed if something is not done to reduce the skink population in this vicinity (other than on the refuge) there will be a great deal of nest destruction next year.

# E. Predacious Birds, including Crows, Ravens, Magpies.

A few hawks were present during the period - mainly Marsh Hawks with a few Swainson's and Rough-legs. No eagles were seen during the period.

Crows were present in usual numbers.

# F. Fish.

Perch are very numerous in the lake and fishermen have been taking a large number of them during July and August. The perch were a year old this spring and have reached an average length of  $7\frac{1}{2}$  inches - approx. one percent of the perch taken are 10 to 12 inches long. A few northern pike have been observed, 11 to 14 inches long, and a few walleyed pike have been seen that were 10 inches long.

The Fishing Season opened May 16 and will close September 15. Winter fishing will open December 1 and will close February 28.

### III. REFUGE DEVELOPMENT - MAINTENANCE

## A. Physical Developments.

The following maintenance and construction projects were completed during the periods

- 1. Repaired refuge boundary fence that was damaged by high water and snow.
- 2. Took up and planted 400 cotton wood trees along shore line; planted 800 trees in shelter belt near headquarters.
- 3. Cultivated trees several times.
- 4. Removed one-half mile of old refuge fence.
- 5. Built one-half mile of new refuge fence installed 10 steel corner posts in concrete.
- 6. Installed congowall covering on bathroom in Lake Ilo residence.
- 7. Installed new glass in windows of buildings at headquarters that were broken by hail.
- 8. Mounted and installed air compressor unit in garage at headquarters.
- 9. Trapped 56 skunks on refuge near headquarters.
- 10. Gathered data for rent survey.
- 11. Repaired motor on borrowed  $l_{\mathbb{Z}}^{1}$  centrifugal pump and set up unit for watering lawn at headquarters.
- 12. Stained all roofs of buildings and painted exterior of residence and granary.
- 13. Made brood counts on Ilo June 23, July 10 and August 12.
- 14. Made minor repairs on Diamond T truck #I-16956 and IHC Pickup #I-16949 and on other Government-owned equipment.

#### B. Plantings.

No grain crops were planted by refuge personnel. The following crops were planted by share-croppers:

Tom Donohoe: Permit No. 82 - 13 acres of wheat, 10 acres of corn, 22 acres summer fallow. Wheat was harvested by share cropper and corn was left standing for refuge share.

Charles Schollmeyer: Permit No.  $81 - 22\frac{1}{2}$  acres summer fallow and  $22\frac{1}{2}$  acres barley and wheat. Refuge share was left standing in field. A 50 percent hail loss occurred on August 15th on this crop.

#### IV. ECONOMIC USES.

## A. Grazing.

One grazing permit is in effect at the present time.

# B. Haying.

Two haying permits were issued and two are yet to be issued. 75% of the hay has been harvested to date.

## C. Other Uses. None.

# V. FIELD INVESTIGATION OR APPLIED RESEARCH

None.

### VI. PUBLIC RELATIONS

## A. Recreational Uses.

The recreational area was again under the management of the Dunn County Park Board under a cooperative agreement with the Service. They have cultivated trees, mowed grass, installed new benches in the bath houses and have kept the grounds clean and orderly.

10,800 northern pike were stocked in Lake Ilo by the State Game and Fish Department. No contact was made with refuge personnel in regards to stocking these fish, but it was highly publicized after they were planted.

The refuge manager has since had a discussion with the State Game and Fish Commissioner and it was agreed that the State and the Service should get together on such matters. It was suggested that the State Fisheries Department wark in cooperation with our Branch of Fisheries on the fisheries management of federal waters within the State.

#### DISTRICT IV EASEMENTS

#### HIDDENWOOD

#### I. GENERAL.

Precipitation for this area was below normal. The water was approx. three feet higher than normal for this time of the year (due to a plug that someone has put in the highway culvert). A large number of the trees around the lake shore have died due to high water. It is estimated that 95 percent of the bulrushes have been killed out by the high water level.

The public used this area a great deal this summer for boating and swimming.

### II. WILDLIFE.

A brood count was made on July 7 and one brood of Canvasbacks and one brood of Coot were seen. When visited on September 2, five broods of

Canvasback were seen and an estimated 60 adults. Ducks seen consisted mainly of Blue-winged Teal, Readhead and Canvasback. Three sharp-tailed grouse were seen, but no other upland game birds were observed during the period. It is believed, however, that a few Pheasant, Sharp-tails and Huns. are using the area.

The muskrat population appears to be very small as there is not much food. A few mink signs were observed and it is believed a small number are present.

### III. PHYSICAL DEVELOPMENTS.

1. Brood count and wildlife observations.

#### LAKE PATRICIA

### I. GENERAL.

Rainfall was about normal during the period and good crops were harvested in this vicinity. Water levels were believed to be higher than in the past - due to the fact that the State Game and Fish Dept. cleaned out the diversion ditch and removed the plug in the creek that supplies water for the lake. When visited on July 9 a small stream of water was flowing over the spillway.

### II. WILDLIFE.

A brood count was made on July 9 and 17 broods were counted. It is believed only a small percentage were actually seen as the escape cover was very good. On August 8 approximately 1350 ducks were observed - mainly Mallards, Pintails, and Coot. A few Blue-wings and other species were also seen. Approximately 30 young grebes (Horned, Pied-billed and Red-necked) were also observed.

Two broads of Pheasant were observed on July 9. It is believed their population is about the same as last year but considered small compared with the past. No Sharp-tails or Huns. were seen but undoubtedly a few are using the area.

One beaver house and 2 beaver were seen. Muskrat and Mink sign were observed and it is believed their numbers are larger than in the past. Skunk signs were numberous and it is believed there are more than usual.

#### III. PHYSICAL DEVELOPMENTS.

- 1. Brood counts and wildlife observations.
- 2. Checked structure and markers.

#### LEGION LAKE

### I. GENERAL.

Rainfall was below normal during the entire period. The water level, however, has remained good considering the dry weather. On May 1 a small stream of water was flowing over the spillway and on July 7 the water was eight inches below the crest; at the end of the period it was 15 inches below spillway crest. Crops were poor in this vicinity.

#### II. WILDLIFE.

On May 17 - 350 ducks were counted - Shovellers, Mallards, Pintails, Blue-winged Teal, Canvasbacks, Baldpates and Gadwalls in that order. A brood count was made on July 7 - 13 broods and 125 adult ducks were counted. When visited on September 2 the following birds were observed: 300 White Pelican; 400 ducks (consisting of Mallard, Pintail, Blue-winged Teal, Ruddy and Shovellers); five Great Blue Herons; six Black-crowned Night Herons; four Avocets; 60 Yellow-legs and 3,000 gulls.

No Pheasants, Sharp-tails or Huns. were observed on the refuge; a few were seen in the surrounding vicinity.

Muskrat and Mink signs were observed and it is believed the usual numbers are present. Skunk are believed to be numerous in this vicinity and a number are using the refuge.

### III. PHYSICAL DEVELOPMENTS.

- 1. Brood counts and wildlife observations.
- 2. Structures and water level checked.

#### McLEAN

#### I. GENERAL.

Rainfall was below normal during the first three months and normal for August. Most of the rainfall was during the last week of August. Poor to fair crops were harvested in this vicinity. Water levels have been good during the period. A small stream was flowing over the spillway at the beginning of the period; water was five inches below crest on July 7, and sixeinches below on September 2. The bulrushes have done very well on this area the last few years - approximately two-thirds of the lake is covered with rushes.

### II. WILDLIFE.

A brood count was made on July 7 and 7 broods were observed; as well as 115 adult ducks and 50 Coot. On September 2 - the following birds were seen: 1,000 Mallards; 300 Blue-winged Teal; 200 Pintails; 100 Shovellers; 200 Coot; 50 Pied-Billed Grebe and 30 Yellow-legs.

No Pheasants, Sharp-tails or Huns. were observed, but it was reported by a farmer living on the refuge that a few are using the area.

A number of Muskrats was observed and it is believed the area has a large population. A few Mink signs were observed and it is believe the usual numbers are present.

## III. PHYSICAL DEVELOPMENT.

- 1. Brood counts and wildlife observations.
- 2. Structures and water levels checked.

### PRETTY ROCK

### I. GENERAL.

Rainfall was about normal for the entire period; good crops were harvested in this vicinity. Water levels have been very good during the period. A small stream was flowing over the spillway in May; water was two inches below crest on July 7 and six inches below on August 29.

### II. WILDLIFE.

On May 12 about 250 ducks were present. On May 16 a brood of Pintails was observed - the first seen this year. A brood count was made on July 8 and 49 broods were observed. An estimated 500 adult ducks were also present. When visited on August 29 an estimated 4,000 ducks were on the refuge. Three broods of Ruddys, 1,000 Coot, 50 Yellow-legs, four Avocets, 30 Pied-billed grebes and three Great Blue Herons were seen.

Two brood of Pheasants were observed on the refuge on July 8, and 12 pheasants were observed on August 29. The Pheasant population is believed to be about the same as last year.

No Sharp-tailed Grouse or Hungarian Partridge were observed this period but it is believed a few are using the refuge.

According to signs, the Mink and Muskrat population is about the same as last year.

## III. PHYSICAL DEVELOPMENTS.

- 1. 80 Cu. Yds. rook hauled and placed below spillway.
- 2. 16 Cu. Yds. of rock hauled and placed on road grade that crosses refuge.
- 3. Made brood count and wildlife observations.
- 4. Checked structures and water level.
- 5. Contacted farmer living on refuge in regards to duck damage.

#### STEWART LAKE

#### I. GENERAL.

Rainfall was below normal for the entire period, but crops were fair in this vicinity. The water level was quite good considering the dry season. The water was approximately level with spillway crest at the beginning of the period and receded to two feet below by the end of the period.

The spillway is to be rebuilt this fiscal year.

#### II. WILDLIFE.

A brood count was made on July 8 - eight broods, 60 adult ducks and 300 shore birds were observed. When visited on August 29 the following birds were observed: 3,000 ducks (mostly Mallard), 600 Coots, 100 Pied-billed grebes and 200 shore birds.

Of special interest was an albino Mallard that was observed on August 29 - it was believed to be a male.

No Pheasants have been observed on the refuge this period and only a very few in the vicinity. Their number is very small in this locality due to the severe winter last year. It is believed, however, that a few Pheasants, as well as a few Sharp-tails and Huns., are using the area.

A few signs of Mink and Muskrats were observed. It is estimated that approximately the same numbers are present as last year.

Skunk are numerous in this vicinity. It is believed that more than usual are present.

#### III. PHYSICAL DEVELOPMENTS.

- 1. Brood counts and wildlife observations.
- 2. Boundary markers and structures checked.

#### WHITE LAKE

#### I. GENERAL.

Rainfall was below normal during the entire period. A severe hail storm occurred during July - 100 percent losses occurred on the refuge and in the nearby vicinity. The water level was approximately level with spillway crest at the beginning of the period and receded to  $2\frac{1}{2}$  feet below crest by the end of the period.

#### II. WILDLIFE.

A brood count was made on July 8 and 18 broods were recorded. 150 adult ducks were also counted. When visited on August 29 the following

birds were observed: 2,000 ducks, 500 Coots and 200 shore birds.

No Pheasants, Sharp-tailed Grouse or Hungarian Partridge were observed on the refuge this period. One Pheasant was seen near the refuge. It is believed that a few of each of the three upland game species are probably present on the refuge.

A few Mink and Muskrat signs were observed - their numbers are believed to be about the same as last year.

Skunks are numerous in this locality and on the refuge.

## III. PHYSICAL DEVELOPMENTS.

- 1. Placed four Cu. Yds. of rock above spillway crest.
- 2. Brood counts and wildlife observations.
- 3. Structures and water levels checked.

NOTE: The above report on Lake Ilo and District IV Easement Refuges was prepared mainly from data supplied by Mr. Chesley M. Dinkins, Maintenance Man (General) in charge at Ilo. Some data were obtained by the refuge manager and the Student Assistant, Stanley E. Smith.

# DISTRICT IV EASEMENT REFUGE BROOD DATA

	Species	Number of Broods	Number of Young
1. Lake Ilo.	Mallard	15	95
	Gadwall	3	21
	Baldpate	1	6
	Pintail	6	37
	B. W. Teal	4	27
	Shoveller	7	42
	Unid.	17	122
	Total	53	350
2. Hiddenwood	Canvasback	6	37
	Coot	1	5
	Total	7	42
3. Lake Patricia	Mallard	5	32
	Pintail	5	31
	Shoveller	2	13
	Unid.	5	36
	Total	17	112
4. Legion Lake	Mallard	3	19
	Baldpate	1	6
	Pintail	6	37
	Shoveller	2	13
	Unid.	1	7
	Total	13	82
5. Lake McLean	Pintail	5	31
	Pied-billed Grebe	1	3
	Unid。	1	7
	Total	7	41
6. Pretty Rock	Mallard	9	57
	Baldpate	6	38
	Pintail	15	92
*	B. W. Teal	4	27
	Shoveller	14	89
	Ruddy	11	5
	Total	49	308
7. Stewart Lake	Mallard	2	12
	Baldpate	1	6
	B. W. Teal	3	20
	Unid.	2	14
	Total	8	52

## EASEMENT REFUGE BROOD DATA (Continued)

	Species	Number of Broods	Number of Young
8. White Lake	Mallard	4	25
	Pintail	9	55
	B. W. Teal	-1	7
	Shoveller	4	25
	Total	18	112

The number of young is based on the average brood size given in Mr. R. E. Griffith's circular on "Waterfowl Brood Counts".

The total production for Lake Ilo and District IV Easements was 172 broods and 1099 young; in 1951 there were 171 broods, 1086 young; in 1950 193 broods, 1191 young; in 1949 252 broods, 1630 young.

Note: this cold Beinge True 110 and the data are necessarily based on an analysis of the rest of the form.

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	Species	First	Seen	Peak Conc	entration	Last S	een gm			Total
			1					Broods	Estimated	Estimated
	Common Name	Krumber	Date	Number	Date	Number	Date	Seen	Total	for period
I.	Spens	sentati.	e breeding			s should be		NO OF MOTO		egating
	Whistling swan	Estimati	d number	of young pr	oduced bas	ed on obser	rations an	d actual o	ounts on 19	DL9-
II.	Geese:	period.								
- 4	Canada goose		reinge :	ecord for t	te species	during the	Season co	ncerned 11	the repor	ing
	Cackling goose	200							100	
	Bran t									
	White-fronted goose	The gree	test num	er of the s	pecies pre	sent in a l	mited int	erval of	ime.	
	Snow goose									
	Blue goose			meper sect.		sun does no				
	(2) First seen:	The firm	t refuge	record for	the apecie	during th	season d	oncerned :	n the repor	ting
II.	Ducks:								2.50	
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	Black duck			should be s						g pe
	Gadwall,	In addi-	ion to ti		sed on for	t, other ap	cies occu	Fring on ;		150
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	Blue-winged teal			4000		Reported b	Chesi	by M. Pini	1208	8000
	Cinnamon teal			1000				7	800	1200
	Shoveller Wood duck			2000					800	
	Redhead			200	5/1-20			-		200
	Ring-necked duck		- '	800	4/ 4-80					
	Canvas-back • • • •			. 100		her venent	WT GRO AT	to posmon	meire Ber	100
ota'l	Scaup			1000	* During	mal ripatin	erose th	9 49949	Dating Dat	1200
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	Unidentified							17	4.00	
erce		DASKEG -			Peak	sterioul m	napera	Ti Ti	490	
	Coot:			8000	8/20-31			8	80	4000

(over) 3-1750 (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

(Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

Percent of waterfowl area covered  Dates brood counts made  Percent of area covered in brood counts  Total production:  Ceese  Ducks 900  Coots 90  Reported by Chesley M. Dinkins  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentrations  The greatest number of the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.	Dates waterfowl counts made		No. of Lot of Lo	Total	waterfowl usa	ge during	period	21,1	40
Principal nesting areas this season Extire References  Geese  Ducks 500  Coots 10  Reported by Geese, Principal nesting areas this season Extire References  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Percent of waterfowl area	covered	2000	Peak	materfowl numb	ers	16	450	1000
Principal nesting areas this season stire Reference Ducks 900  Coots 90  Reported by Chesley M. Dinkins  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Itoma produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Dates brood counts made			Areas	used by conce	ntrations	Entir	Ich	
Ceese  Ducks 500  Coots 50  Reported by Chesley L. Binkins  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating log of the breeding habitat. Estimates having no basis in fact should be omitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Percent of area covered in	brood counts	70	48					
Coots 50  Reported by Chesley N. Dinking  [INSTRUCTIONS]  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concernitation:  (4) Last seen:  The last refuge record for the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitate. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature				Princ	ipal nesting a	reas this	season 1	brie Roft	7300 700
Coots  Reported by Chelly L. Dinkins  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature		to a sedie a a w/r	200	5/1-81					500
INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating log of the breeding habitat. Estimates having no basis in fact should be omitted.	Ducks 900	1	7000	D			Δ	800	1800
Instructions  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The last refuge record for the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Coots	_	4000	a	Reported by _	Questay	H. Dinks		
(1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Pintail		INST	RUCTIONS			9		1000
The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Tourng produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Mallard Black cack	reporting period sh	ould be a	ided in ap	propriate spac	es. Spec		ntion shoul	ng the Ld be
(4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	(2) First seen:								rting
(4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	tration:	The greatest number	of the sp	pecies pre	sent in a limi	ted inter	val of ti	ime.	
sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	(4) Last seen:		ord for th	ne species	during the se	ason conc	erned in	the report	ting
(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	I. Smins:	sentative breeding	areas. Br	rood count	s should be ma	de on two	or more	areas aggi	regating
may or may not be more than that used for peak concentrations, depending upon the nature	Common Name	10% of the breeding	g habitat.	Estimate	s having no ba				
	(6) Total:	may or may not be m	ore than t	that used	using the refu for peak conce	ge <u>during</u> ntrations	the peri	lod. This ing upon th	figure ne nature

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

poper purk corn Refuge Middenwood burner Months of P May 11 18 40 to P August 19 19 19 19

	(1)	may or	5)y not be	hore that(3			centratio		2) g upon ti	(6)
	Species	First	Seen	Peak Conc	entration	Last S	een grad		roduced	Total
								Broods	Estimated	Estimated
	Common Name	Number:	Date	Number	Date	Number	Date	Seen	Total	for period
I.	Swans:	sentati.	e breedil		roed count	The second secon			areas agg;	egating
	Whistling swan	Estimate	d number	of young pr	oduced bas	ed on obser	rations ar	d ectable	ounts on re	pre-
	0	harman								
II.	Geese: Canada goose	The last period.	TOTARO 1	soord for t	to checton	den Siremon	populari co	nectues Ti	mra tehoti	THE
	Cackling goose	The last	refuge !	moored from the	no shoules	during the	200200 00	nhowned in	the more	400
	Brant									
	White-fronted goose	ine Ries	cear num	er of the s	becres bre	SUC JUST	BELLEG THE	START OF	THE .	*
	Snow goose							*		
	Blue goose	partod	and the I	umper seen.	This col	mu goes no.	spply to	resident	species.	
	(2) First seen:	Ine fire	t reiuge	record for						ting
II.	Ducks:				1 - e x	2 3 9 9	8 8 8 8 8	3 10 10		
	Mallard		those sp			Monal sign		0	20	250
	Black duck	reporti	g period	should be a	ded in ap	mopriate s	aces. Sp	solal atte	ution shoul	d be
	Gadwall	In addit	ion to th	e pra 10 Ha	sed on for	A, other sp	cies cocu	rringoon a	The second secon	
	Baldpate			20				0	10	40
	Pintail			100	DOTYONS			0	20	200
	Green-winged teal			300		multiple some of		0		2.00
	Blue-winged teal • • Cinnamon teal	• • • •		. 100		Reported by	C	tey 10 Dis	10 miles	180
	Shoveller			80				0	10	80
	Wood duck	- 1 pai 10 m							35	00
	Redhead			. 30	5/1-20			0		30
	Ring-necked duck		1		7,55					
		16 16 W W	A 7 10 10	50	8/20-80	ber bearin	STORN VE	ra sebean	60	80
	Scaup			100	5/1-20					
GLOSS		prood our	ata	The second secon	(1 production reports					
	Buffle-head			2				- "		ě
ates	Ruddy duck			80	8/20-20	meeg oh cer	captistio	733	30	40
	nt of waterfowl area	overed			Posk	starfowl m	mbera		180	
	Coot:			80	8/20-80	waterford,	to a large	1	20	50

3-1750 (over) (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

3-1750 (Sept.1950) Interior - D	uplicating Section, We		UTTARIOS	à			Form NR-
Dates waterfowl counts made		SØ	8/30-30	waterfowl usag	T	780 880	50
Dates brood counts made		80	Areas	used by concen	trations	70	-00
Percent of area covered in Total production:	n brood counts	T	Princ	ipal nesting ar	eas this seas	on	300
Geese		20	s/1-80				20
Ducks 170	_	50	n	-		10	60
Coots		r a	13	Reported by	Chesley M.	Pint m	TEO
(1) Species:	In addition to the reporting period sl given to those spec	birds list	dded in ap	propriate space	s. Special a		
(2) First seen:	The first refuge reperiod, and the num	ecord for moder seen.	the specie This col	s during the se umn does not ap	ason concerne	d in the repont species.	orting
(3) Peak concentration:	The greatest number	r of the s	pecies pre	sent in a limit	ed interval o	f time.	
(4) Last seen:	The last refuge reception	cord for the	ne species	during the sea	son concerned	in the repor	rting
(5) Young produced:	Estimated number of sentative breeding 10% of the breeding	areas. B	rood count	s should be mad	le on two or m	ore areas ag	gregating
(6) Total:	Estimated total num						

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

More to Refuge Lake Patricia Months of the May It Is 90 to Magnet 19 19 12

		A Principle of the State of the Land Control of	) A MOS DI		) hat used	(4)			5) a moon el	(6)
	Species	First	Seen	Peak Conc	entration	Last S	en	THE R. LEWIS CO., LANSING, MICH. 400, Long. Long.	roduced	Total
	Common Name	Mumber	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I.	Swans: Whistling swan	8entat1	e breedi		rood count.	s should be	rations an	d actual o	ounts on re	egating
II.	Geese:	period.								
	Canada goose Cackling goose Brant	The last	reinge	ecord for t	ne species	during the	8-88-80II CO	ncerned in	the report	ing
	White-fronted goose Snow goose	The gree	test num	er of the s	pecies pre	ent in a l	mited int	erval of t	Lme.	
	Blue goose			record for maker ween.						ting
II.	Ducks: Wallard Black duck	reportin	g period	aponiq pe s	ided in ap		aces. Sp		The second secon	
	Cadwall Baldpate Pintail	In addit	Lon to th	80 80 3000	morrows	i, uther sp	oles occu	0	80 80	100 2000
	Green-winged teal Blue-winged teal			. 200		Reported by		surel M.	Indina	200
	Cinnamon teal Shoveller Wood duck			200				8	80	200
	Redhead Ring-necked duck		* * * *	. 20	7/9-20			0		20
	Canvas-back Scaup			200	5/1-20	pal neating	areas th	0	10	200
		brood cou	ats	10				0		10
	Ruddy duck Unidentified			•0	8/20-80	waed by con	centratio	5		80 š
	Coot:	DASTOG -		200	8/20-80	mterfowl m	mpera -	0	2 *8.00	200

(over) 3-1750 (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

SI	JUL	AR	IES

Interdor - Dupdleating Section, Washington, B.O. 82449

3-1750 (Sept.1950)

Dates	waterfowl counts made		Total waterfowl usage d	uring period	8,220	
IA.	Coot:	100	6/30-20	9	2,995	300
Perce	ent of waterfowl area of	overed	Peak waterfowl numbers	C	2,000	
Dates	brood counts made	90	Areas used by concentra	tions		90
	Buffla-head	TO	81	0		10
Perce	ent of area covered in			1 0		
	日月日日日	300	46	0		200
Tota]	production:	30	-Principal nesting areas	this season	70	0.4
	Geese		Z\2=50	0		\$0
	Wood dixox				l.	
	Ducks	\$00	ű.	800	2)	200
	Coots 30 * *		Reported by	Chesley M. 1	Dinkins	200
	Partell 1	INST	TRUCTIONS	<b>1</b>	(1): )	J. j. in
	Baldpate	- 100		0	(9)	100
III.	(2) First seen:	given to those species of lo  The first refuge record for	added in appropriate spaces.  ocal and National significance  the species during the seaso  This column does not apply	e. 0 n concerned f	in the repo	1.800
	Snow goose				•	
	(3) Peak concentration:	The greatest number of the s	species present in a limited	interval of	time.	
II.	(4) Last seen:	The last refuge record for t period.	the species during the season	concerned in	n the repor	rting
	(5) Young produced:	sentative breeding areas. B	roduced based on observations Brood counts should be made o Estimates having no basis	n two or more	e areas ag	gregating
	ALL KANDAL KIND			Broods		As with the second
	(6) Total:		ne species using the refuge de that used for peak concentra			

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Note: Any column to the form of the form o

	(1)	merA on(	)y not b	more tha(3	) hat used	or peak (4)	centratio	na deper	5) is abou p	(6)
	Species	First	Seen		entration	Tast S		Young P	roduced	Total
	<u> </u>	7						Broods	Estimated	Estimated
	Common Name	Number	Date	Number	Date	Number	Date	Seen		for period
I.	Swans: Whistling swan	Estimate	d number	of young pr	pduced bes rood count	ed on obser		d actual o	ounts on r	pre- legating
II.	Geese:	periog.								
	Canada goose	The last	reinge :	record for t	de species	during the	Season co	acerned in	the report	ing
	Cackling goose									
	Bran t									
	White-fronted goose	The gree	test num	er of the s	pecies pre	sent in a l	mited in	BY VAL OF 4	Laber 4 10	
	Snow goose									
	Blue goose			maber seen.		um does no				
	(2) First seen:	The firs	t refuge	record for	the specie	during th	Season d	oncerned 1	n the repor	ting
II.	Ducks:			10/6	- 4					-
	Mailard			ecie 400 f lo		donal sign		8	80	400
	Black duck	reporting	g period	should be a	ided in ap	propriate s	Moss. Sp	scial atte	ntlon shoul	g pe
	Cadwall	In additi	ton to t	e pri 60 lite	sed on for	a, other sp	cies occu	rring on r		
	Baldpate			100				1	20	160
	Pintail			200	TOOL TONS			0	100	800
	Green-winged teal	A P T P		200		Reported by		W	50	200
	Blue-winged teal • • Cinnamon teal	• • • •		• • 200		Returnitied by	(heal)	y M. Obink	300	200
	Shoveller			200					80	300
	Wood duck			200				•	-	300
	Redhead			20	5/1-20		-			20
	Ring-necked duck				0, 2-E0			L V	15	-
	Canvas-back	Ì		20	- Martiner	pal nestin	GT.GGD PH	re pospett	10	20
	Scaup			200	•	and manda	23000 470			200
	Golden-eye	proper con	AUCH				-	· · · · · · · · · · · · · · · · · · ·		
	Buffle-head			9, 590					Į.	
	Ruddy duck	-		80	8/20-50	masq på co	DOSTUTELTO	CONTRACTOR OF THE PARTY OF THE	8	80 %
	Unidentified							1		
et.ce	nt of waterfowl area	ODANTEG		THE PERSON NAMED IN	J.Deit	sterioni n	MD GT-R	and the same of th	510	
	Coot:			100	8/20-80			3	E354	150
	materiowl counts made		-			merberford,	erão cira	S bearing	75870	

3-1750 (over) (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

3-1750 (Sept.1950) Interior - Duplicatin		SUPPARIES					
Dates waterfowl counts made		Tota	l waterfowl usa	ge during	period	1,810	
Percent of waterfowl area covered	FOO	8/30-20	waterfowl numb			510	160
Dates brood counts made	80	Area	s used by conce	ntrations	3	2	90
Percent of area covered in brood		_	<u> </u>				
Total production:	500	Prin	cipal nesting a	reas this	season	70.	100
Geese		5/1-20					50
Ducks 295	800	а	a transfer of the same of the	The state of the s	3	20	200
Coots	800	41	Reported by	Cheeley !	L. Plan	20	100
Baldpate Pintali	SO LNS!	TRUCTIONS			0	100- 50	200
(1) Species: In addreport given	dition to the birds listing period should be a to those species of lo	added in a	ppropriate space	es. Speci			ing the
	irst refuge record for d, and the number seen						orting
(3) Peak concen- The g	reatest number of the	species pr	esent in a limi	ted interv	al of t	ime.	

tration:

(6) Total:

(4) Last seen: The last refuge record for the species during the season concerned in the reporting period.

Estimated number of young produced based on observations and actual counts on repre-(5) Young produced: sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

> Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Only columns applicable to the reporting period should be used. It is desirable that the Summaries Note: receive careful attention since these data are necessarily based on an analysis of the rest of the form.

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Note: Only cold Refuge on Melon 18 as porting to Months of pe May 15 18 38 to August 19 19 82

	(1)	may or (5	)A HOP OF	1 more one (3	hat used	or bear (4)	eentratio	ns, depend	5) 8 abou 41	e us (6)
- Anna	Species	First		Peak Conc		Last S		Young P		Total
			7					Broods	Estimated	Estimated
	Common Name	Mumber	Date	Number	Date	Number	Date	Seen	Total	for period
	Swans:	sentati.	e present	g areas, B		s should be		NO OF HOTE	areas aggi	egating
	Whistling swan	Battmate	d mumber	of young pr	oduced bas	ed on obser	ations an	d setual o	ounts on re	pre-
II.	Geese:	period.								
	Canada goose	The last	reiuge :	scord for t	se species	during the	Season co	ncerned in	the report	Ing
	Cackling goose		4							
	Brant			The same of the sa						
	White-fronted goose	The grea	test numi	er of the s	pecies pre	sent in a l	mited int	erval of t	ime.	
	Snow goose									
	Blue goose			umber seen.		mm does no				
	2) First seen:	The firs	t refuge	record for	the specie	during th	satach d	meerned 1	n the repor	cing
II.	Ducks:			ac 2000 To	8/20-50			0	80	1200
	Mallard		those s			sional sign		_		
	Black duck		g period	40	ided in ap	propriate a	E.Gest . ST		10	2 A 80
	Cadwall	In Addis	Len to ti	200	sed an for	is other sp	icias occu	. 0	10	ar the
	Baldpate Pintail	764		200	morrous.				80	800
	Green-winged teal				HIGHIGHE					
	Blue-winged teal • •			800		geboured pi	-	erice Octor	80	400
	Cinnamon teal					Description in	Ohes	Law M. Din	C) 218)	
	Shovellar			200				0	80	180
	Wood duck			THE WALL						
	Redhead			20	5/1-90					80
	Ring-necked duck									
	Canvas-back			20	Princ	pal nestin	areas th	LE SERBON		80
	Scaup			100						180
	Golden-eye	prood cor	nts		-		Aller Law Continue of State			
	Buffle-head				-					
ntes	Ruddy duck			80	8/20-80	used by co.	centratio	0	10	80 %
	nt of water foul area o	overed _		200	8/20-30	sterfowl m	mbers	0	* 5080	800
TA.	Coot:			200		Markerioni.				30.0

(over) 3-1750 (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

3-1750 (Sept. 1050) Interior Du		SU	TUMARTIES				
Dates waterfowl counts mad	e		Total	waterfowl usa	ge during perio	d 2,640	
Percent of waterfowl area	covered	\$00	Peak	waterfowl numb	ers	2,200	£30
Dates brood counts made		ANTO	Areas	used by conce	ntrations	10	50
Percent of area covered in	brood counts	1					
Total production:		J. O	"Princ	ipal nesting a	reas this seaso	n	180
Geese		20	8/2-80				μα
Ducks 280		100	п	- 10 miles	0	50	š (Ć)
Coots		€ 8 × €	a	Reported by _	Cheeley M. D	inkins	400
Baldpave Fintedl		INST	RUCTIONS		0	P	0.560
(1) Species:  (2) First seen:	In addition to the reporting period sigiven to those spectrum. The first refuge reperiod, and the number of the first refuge reperiod.	hould be addicted of local cord for the mber seen.	lded in ap cal and Na the specie This col	propriate spac tional signifi s during the s umn does not a	es. Special at cance. eason concerned pply to residen	in the reput species.	uld be
(3) Peak concentration:	The greatest number	r of the sp	pecies pre	sent in a limi	ted interval of	time.	
(4) Last seen:	The last refuge reperiod.	cord for th	ne species	during the se	ason concerned	in the repor	rting
(5) Young produced:	Estimated number of sentative breeding	areas. Bi	rood count	s should be ma	de on two or mo	re areas ag	gregating
	10% of the breeding	g habitat.	Estimate	s having no ba	sis in fact sho	uld be omit	ted.
(6) Total:	Estimated total numay or may not be not the migrational	more than t					

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Rock Months of May Refuge

Note:

of the migrational movement.

	(1)		y not be	more that(3	) hat used	or peak (4			) g woon t	e na (9)
	Species	First Se	een	Peak Conc	entration	Last S	Seen	Young P.		Total
	Common Name	Mariah and Java	Date	Number	Date	Number	Date W	Breeds	Estimated Total	Estimated
Т Т	Swans:	The state of the s	Dave	Monther		Monitoer,	the same of the sa	Seen	The state of the s	for period
Τ.	Whistling swan			of young pr						
	MITTE CTTING & MOTH	Makinatad	manufacture.	Of musica me	parting pas	ed on observe	rotions av	M actual c	0111146 021 25	
II.	Geese:	period.								
	Canada goose	The Last	refuge 1	ecord for t	ne species	during the	Season co	acerned in	the report	ing
	Cackling goose						,			
	Brant		7							
	White-fronted goose	The greate	est num	er of the s	pacies pre	sent in a l	imited int	erval of t	ine.	
	Snow goose									
	Blue goose			umber seen.						
	(2) First seen:	The first	refuge	record for	the specie	during th	Beason o	oncerned 1	a the repor	ting
III.	Ducks:								All faces	the state of the s
	Mallard	given to				donal sign		9	1.50	8000
	Black duck			should be a						2
	Gadwall	In addivi		e bir 20 Hs	sed on for	a, other sp	cles occu	rringon :	efag durin	6 AP 80
	Baldpate								60	
	Pintail			2000	thor your			1.5	200	8000
	Green-winged teal			-						
	Blue-minged teal			400		Reported b	- Ohea	gen my byn	CAMB .	600
	Cinnamon teal	1								
	Shoveller			200				14	200	800
	Wood duck Redhead			-	- 4 -				(4	
		1		80	5/1-80			0		60
	Ring-necked duck Canvas-back			-					10	40
Total	Scaup			200	Pro n.c.	pal nestin	areas th	E REGREY	10	300
	Golden-eye			200	and the same of th		promise management		and the later to the later than the	300
	Buffle-head	brined remai				œ	1			
				80	8/20-80	naed by con	A PRINT OF THE ATTO		<b>B</b> 0	60 %
	Ruddy duck			-	3/ 20200	naed hy cor	reent retio		-	00 8
Perce	nt of waterfowl area	dovered.			Poak	sterioni n	mpens		6,980	
	Coot:			1000	8/20-30				E DEC	1500
	waterfowl, counts mad				LOCEL	waterford.	reside om.	eg berred	8,880	

3-1750 (over) Interior - Duplicating Section, Washington, D.C. 82449

3-1750 (Sept.1950) Inte	rtor - Duplicating Sectu	SUPARTE	5			
Dates waterfowl o	ounts made	To	tal waterfowl usage during	g period	8,890	
IA" Coot :	Cowl area covered	7 300 Pe	ak waterfowl numbers		5,950	T900
Dates brood count	s made		eas used by concentration	- V	00	90
	covered in brood counts _					
Total production:		so a	incipal nesting areas thi	s season	To	200 ©0
Geese		80 5/1-20		0		90
Ducks	rro	800 a		14	200	800
	corr	a 009	Reported by Chest	oy My Din	313300	900
Pintail		INSTRUCTION	5	<b>T</b> 2	200	2000
(2) First s	reporting per given to thos seen:  The first ref period, and t	riod should be added in se species of local and Suge record for the spe she number seen. This	form, other species occur appropriate spaces. Spe National significance.  cies during the season co column does not apply to  present in a limited inte	cial atterned in resident	ntion show 120 n the repospecies.	ild be
tration	1:			<u>6.</u>	1.61.	
(4) last se		nge record for the spec	ies during the season con	cerned in	the repor	rting
(5) Young p	sentative bre	eding areas. Brood co	based on observations and unts should be made on tw ates having no basis in f	o or more	areas agg	gregating

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature

(6) Total:

Note: Only columned to spend of these data are necessarily based on an analysis of the rest of the form.

	(1)		y not 8		)hat used		centratio		2) g mon ti	e nat(e)
- 3 - 1 - 7 - 1 - 1	Species	First	Seen	Peak Conc	entration	Last S	9 <b>en</b>	Young P		Total
								Broods	Estimated	Estimated
-	Common Name	Humber	Date	Number	Date	Number	Date	Seen	Total	for period
I.	Smans: Whistling swan	Estimate sentativ	d number	of young pr		ed on obser		d actual c	ounts on re	pre- legating
II.	Geese:	berrog*		7.1						
	Canada goose	The Last	reinge ;	scord for t	serpede et	during the	Beason co	ncerned in	the repor	ing
	Cackling goose									
	Bran t									
	White-fronted goose	The gree	test numi	er of the s	pecies pre	sent in a l	mited int	erval of t	Lme.	
	Snow goose				-		The state of	THE PARTY		
	Blue goose			umber seen.						
	(2) First seen:	The firs	t refuge	record for	the specie	s during th	BOLBON C	oncerned 1	n the repor	ting
III.	Ducks:				a /an an					
	Mal lard			ect 8000 To		tional sign		8	50	<b>\$</b> 000
	Black duck	Lebelpin	E period	should be a	ided in ap	mountate s	Aces. Sp	ecial atte	ution shoul	d ba
	Cadwall	In addit	ion to th	e bir 30 lis	sed on for	L other so	cles occu	FIGUR ON I		s ep 0
	Baldpate Pintail			1000					20	100
	Green-winged teal		·	1000	TOT TOTAL					1600
	Blue-winged teal			600		Reported by	and a	rea no par	C3 800 50	600
	Cinnamon teal			•		Bernythad In	Check	Row Mr. Dity		000
	Shoveller			100				0	20	100
	Wood duck									200
	Redhead	1 1 1		1.0						
	Ring-necked duck									
	Canvas-back			80	5/1-20	pel nesting	areas to	re ecoson	10	40
	Scaup	1		800				0	111	
	Golden-eye	breed sou	nts	-	-		0			The same of the law of the
	Buffle-head					12			1	
	Ruddy duck				Ardús	used by con	centratio	0	20	80 %
		covered		000	BOOK .	steriowi m	mpers	_	6,080	
	Coot:			600	8/20-20	100		0	40	800
	materiowi counts mad		1		Total	Waterford :	naage duri	hotrisq Bal	6,150	1

3-1750 (over) (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

SUMARIES

Interior - Duplicating Section, Washington, D.C. 82449

(Sept.1950)

3-1750

Percent of waterfowl area covered  Dates brood counts made  Percent of area covered in brood counts  Total production:  Geese  Ducks 210  Coots 10  Reported by Chelry K. Fibring  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concernations:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding habitat. Estimates having no basis in fact should be maked on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be mitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Dates waterfowl counts made		Total	waterfowl usag	e during period	6,190	
Percent of area covered in brood counts  Total production:  Geese  Ducks 210  Coots 10  Reported by Casley K. Maring  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concernitation:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature			Peak	waterfowl number	rs	4,630	300
Total production:  Geese  Ducks 110  Coots 10  Reported by Geeley N. Minims  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feek concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating logs of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Dates brood counts made		Areas	used by concen	trations	320	90
Ceese  Ducks 10  Coots 10  Reported by Crealry 1. Minimum  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Percent of area covered in	brood counts					
Ducks 210  Coots 10  Reported by Crestsy E. Districtions  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature				ipal nesting ar	eas this season	m	50
Coots 10  Reported by Cheeley K. Misting  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature			- 4 - 5				5.
INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concentration:  (4) Last seen:  The greatest number of the species present in a limited interval of time.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature		Vanily is a second that the second second			0	500	T00
(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen: The last refuge record for the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Clanshon test						200
(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concernation:  (4) Last seen: The last refuge record for the species present in a limited interval of time.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature			0 0	Reported by _	Chesley M. Di		800 .
reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  The last refuge record for the species during the season concerned in the reporting period.  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Baldpate Fintall	9	0	athan anasta	1	W.2562	. F. S.
The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  The last refuge record for the species during the season concerned in the reporting period.  The last refuge record for the species during the season concerned in the reporting period.  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating low of the breeding habitat. Estimates having no basis in fact should be omitted.  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	Mal lard Black duck	reporting period should	be added in ap	propriate space	s. Special atte	ention shou	ld be
(4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	(2) First seen:						rting
(4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.  (6) Total:  Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature	tration:	The greatest number of	the species pre	sent in a limit	ed interval of	time.	
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may or may not be more than that used for peak concentrations, depending upon the nature	I. Swans :	sentative breeding area	s. Brood count	s should be mad	le on two or more	e areas agg	regating
OF THE MIGRATIONAL MOVEMENT.	(6) Total:		than that used				

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

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Hotel Out cold Refuge White Lake reporting to Months of p May at 11 To ge to August 19 To 19 To 19

	(1)	myA or (2	y not b	1010 th (3			.centratic		5) g upon ti	e nat(9)
Residential)	Species	First	Seen	Peak Conc	entration	Last S	een		roduced	Total
								Broods	Estimated	Estimated
	Common Name	Mumber	Date	Number	Date	Number	Date	Seen	Total	for period
I.	Swans:	sentati:		g areas. E		should be			areas aggi	egating
	Whistling swan	Ketimate		or homes ha	bduced bas	d on obser	rations an	d actual	ounts on re	DDG-
II.	Geese:	. period.								
	Canada goose	The Last		scord for t	ne species	during the	Setson co	ncerned 1	the report	ing
	Cackling goose							•		
	Brant									
	White-fronted goose	The gree		er of the s	pectes pre	sent in a l	mited int	BI VAL OF	Ime .	
	Snow goose									
	Blue goose			umber seen.		mm does no				
	(2) First seen:	The firs	t refuge	record for	the specie	during th	1.8 98 8 On C	oneerned ;	n the repor	ting
II.	Ducks:			3000	0/00-00				80	1700
	Mallard		those s			donal sign		THE RESERVE AND DESCRIPTION OF THE PERSON OF	1	
	Black duck Gadwall	recording	a period	20		propriate a	erces occe	0	10	g pa
	Baldpate	In addite	don to th	100	rad on for	s. athen so	icias ocen	0	10	280
	Pintail			500	INCX.YOUR			9	180	800
	Green-winged teal			- ARGO	21.5.0/a.K.U.25/0		-			
	Blue-winged teal			200		geboured pl	010	rjek m. Di	20	250
	Cinnamon teal		1	043			1,000	34 133	and and and	
	Shoveller			100					80	180
	Wood. duck			268						4.5
	Redhead			30				0		40
	Ring-necked duck	1			- 4					
	Canvas-back			20	7/8-20	pal mesting	arous th	s stoson		20
	Scaup			100	5/1-80			9		800
	Golden-eye	crood con	Titles	10.00			-			
	Buffle-head				w/o					30
ates	Ruddy duck			15	7/8	used by co	resultrati o	110	114	*
	ut of materiord area	covered		-	Peak	sterioul m	nupera -	The second second	31000	-
777	Coot:			500	8/20-30	1		0	20	600

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Percent of area covered in brood counts  Total production:  Ceese  Ducks  Coots  Reported by  Checky M. Dinkins  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representations.	900
Percent of area covered in brood counts  Total production:  Ceese  Ducks  Coots  Reported by  Checky M. Dinkins  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representations.	20
Percent of area covered in brood counts  Total production:  Ceese  Ducks  Coots  Reported by  Reported by  Chesley M. Dinkins  INSTRUCTIONS  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Feak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  Estimated number of young produced based on observations and actual counts on representations.	1
Total production:  Geese  Ducks  Coots  Reported by  Chesley M. Diskins  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concernation:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  Estimated number of young produced based on observations and actual counts on representations.	
Coots 20  Coots 20  Reported by Chesley M. Disting  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representations.	500
Coots 20  Reported by Chesley K. Pinring  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on representations.	200
Coots  Reported by  Chesley K. Dinking  INSTRUCTIONS  (1) Species:  In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representations.	
Reported by Chesley K. Diskins  INSTRUCTIONS  (1) Species: In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration: The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on represent the species of the species of the species during the season concerned in the reporting period.	400
Reported by Chesley K. Diskins  INSTRUCTIONS  (1) Species: In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration: The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on represent the species of the species of the species during the season concerned in the reporting period.	
Reported by	160
In addition to the birds listed on form, other species occurring on refuge during reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen:  The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen:  The last refuge record for the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced:  Estimated number of young produced based on observations and actual counts on represent the species of period of the species during the season concerned in the reporting period.	ESO.
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reporting period should be added in appropriate spaces. Special attention should given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration: The greatest number of the species present in a limited interval of time.  (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representations.	160
given to those species of local and National significance.  (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representations.	ne
(2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representations.	
(2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.  (3) Peak concentration:  (4) Last seen: The greatest number of the species present in a limited interval of time.  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on represent in the reporting period.	700
period, and the number seen. This column does not apply to resident species.  The greatest number of the species present in a limited interval of time.  (4) Last seen:  The last refuge record for the species during the season concerned in the reportin period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on repr	O .
(3) Peak concentration:  (4) Last seen:  The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on representations.	5
(4) Last seen: The last refuge record for the species during the season concerned in the reporting period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on repr	
(4) last seen: The last refuge record for the species during the season concerned in the reportin period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on repr	
period.  (5) Young produced: Estimated number of young produced based on observations and actual counts on repr	•
	)com
sentative breeding areas. Brood counts should be made on two or more areas aggreg	ting
10% of the breeding habitat. Estimates having no basis in fact should be omitted.	n ber
(6) Total: Estimated total number of the species using the refuge during the period. This fi	ure
may or may not be more than that used for peak concentrations, depending upon the	
of the migrational movement.	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

80.

3-1751 Form NR-1A MIGRATORY BIRDS (Nov. 1945) (other than waterfowl) Lake Ilo Refuge..... August Months of (1) (2) (3)(5)(4)(6) Species First Seen Peak Numbers Last Seen Production Total Number Total # Estimated Total Common Name Colonies Number Date Number Date Number Date Nests Young Number I. Water and Marsh Birds: Bared Grebe 8/20-30 Common 200 100 SOO 60 Western Grobe Tone Back. Pied-billed Grobe 8/20-30 Carrimore. 30 20 WOT 40 White Pelicen 300 400 10 Double-orested Cornerant 20 80 Great Blue-Heron 20 10 80 Black-crowned Night Heron 10 10 American Bittern 10 20 antimet .W. restable 'va bel'iogel TIONS .U.O.A mi quoty fati bas , melting 18 in the A.O.U. Checklist, I .addition to the birds listed on I pje II. Shorebirds. Gulls and priate space (see Killder bas semolition to od-see Significance 100 200 Willet 10 30 Lesser Yellow-less mrelidmuloo) sons 30 20 Greater Tellow-legs rds (Falconiformes, Strigitorme 100 Spotted Sand piper 100 Davitaher the species for the season concerned. 20 20 Avocet 20 10 Wilson's Phalarops 20 20 Marbled Godwit 200 endiferrando on beend book annoy to tee (over)

(1)	(2)	(3)	ent of the second second	(4)	m to the control of t	(5)	(6) V4 AL-XA ma
I. <u>Doves and Pigeons</u> :  Mourning dove  White-winged dove	strijak oj	200 6	/1-80	ienjo)	ol I i	fuge Lake	100 008
(5) (6) dugtion Totas	en Pr	Last S	areca areca	(3) Peak Nur	(2) First Seen		(1) Species
V. <u>Predaceous Birds</u> : Golden eagle	1 8/10	1 8	/10-20	теdжий	umber Date	7 è	Common Nam
Duck hawk Horned owl Magpie Raven Crow March Hawk Sparrow Hawk	None seels.	100 5, 40 8,	/20-30 /20-30 /1-20 /20-30 /20-30	200 30 30 20 20 20 20	Commers Memo mosco. Commers a a a	dan ron da in da	20 40 40 40 40 40 40 40 40 40 40 40 40 40
				Rej	ported by	nesley M. Dir	deins

#### INSTRUCTIONS

(1) Species:

68

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O.E.

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. <u>Doves and Pigeons</u> (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and-predaceous Passeriformes)

and wolfer resent

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total numer of the species using the reference during the period concerned.

(April 1946)

Refuge District IV Resements, as listed Months of May to August , 194 51

Form MR-2 - UPLAND CAME BIRDS. \* (3) (4) (1) (5) 23(7) 392 (1) (2) (6) Young Sex Species Density Removals Total Remarks Ratio Produced Number broods obs'v'd. Estimated Total For Research For Restocking ata may be occurring in limi Estimated Hunting ni besseld number cover types Pertinent information not Acres a s vd becs specifically requested. Cover types, total using per Bird Refuge List introductions here. Common Name | acreage of habitat Percentage beriseb and dalmust of bfwords see LAKE TLO dud It is believed that skunk olden 250 m Leturas Dixamples spruce Assessi 30 1.50 do od as do Sharp-tailed Gross when here most destroyed a large percentage 20 s golfinever of mests in the vicinity south Hungarian Partridge and season within Standard type s No. 7 should be e possible. and west of Missouri River. Should be besed on actual end d beed observations an ts on represent Survey method us se and COOMERCULH elm sa lo mis bluoda ase us To 0 10 Sheromaki Sharp-tailed Grouse 20 be suborg minor to reduce bedans all Hungarian Partrilgo Saudos bas anold svasade mou 20 in representative britative anditat. PART PATRICIA The of witness or and a wild en presents, etc. Include data on ..... 100 .e ldallava 15 ap. ceqa 50 Sharp-tailed Grance 0 20 Hungarian Partrilgo 0 number in each categor Indicate total boired froger eds gairud bevers LEGION LAKE Estimated lotal number using the refuge the report period. This may 0 STIGHTENS! in side resident birds plus those mig Sharp-tailed Grane to galant saut and tho Hungarian Partrilles Indicate method used to determine pop on and area covered in survey. re ton noltamont inemitmen re do ebuloni edifically requested. Phoguant 0 10 Sherp-tailed Grouse 10 \* Only columns applicable to the perfod odvered should be Eungarian Partriige

Species

(2)

### Form NR-2 - UPLAND GAME BIRDS.\*

(2) DENSITY:

(1)	SPECIES:	Use	correct	common	name.
			man of condition	and a second	etters III

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce Mancia danis bereliod al di swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short dustroyed a large percentage grass prairie, etc. Standard type symbols listed in Wildlife Management Series of rests in the vicinity south No. 7 should be used where possible. Figures submitted should be based on actual . world framenath to wear home observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

- Sharn-balled Grobse (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. Sharp-balled Greine
- Jacquelian Partrilles Indicate total number in each category removed during the report period. (5) REMOVALS:
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

OS OR

Sharp-golled Orones Municipal Partrilles

<sup>\*</sup> Only columns applicable to the period covered should be used.

3-1752 Form NR-2

(April 1946)

Refuge District IV Resements as listed Months of May to August , 19/ 52

					E BIRDS.*	Form NR-2 - UPLAND CAN
(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total per acreage of habitat Bird	Number broods obs'v'd. Estimated Total	Percentage	Hunting For Restocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Phoasant Sharp-tailed Green Bungarian Party	enough to furnish the desternal picture. Examples: and, bottomland hardwood the Wildlife Management builties should be based of areas. Survey method us under Remarks.	2 800 0 10 0 80	pes should to as to obe reverting ag dard type as possible. In represents eas should to	nd hurdwoods, is, etc. Star d be used wher s and counts o	400 20 20 20	It is believed skunk destroyed a large percentage of upland game nests.
Sharp-tailed Gre Hungarian Party:	amilarion and actual	0 80		umber of roung tative breedig	Est 08 ted	
Pheasant Sharp-tailed Gro Rungarian Partri		0 10		applies prima es il availabl ni mumber in		
y seasons.	he report period. This make the refuge during certain	gairing ag Orni gaiter	uler edd gni gim esodd au	au radmun lato Iq abrid birda pl	Estimated tinclude rea	(6) TOTAL:
osla	erea covered in survey.	nas noiteli ot specific	etermine pop	thod used to der purtinent i	um ejasibnī ijo ebulani	(7) REMARKS:
		,beat	i should be	pertod cavere	arij oj alda	* Only columns applic
1913						

INSTRUCTIONS

sa \\ell . for August of . 19\land

- SPECIES:
- Use correct common name.

Species

Shore-balled Greece

(2) DENSITY:

hevertesh shame hevelfed at #1

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short Amelow to encourage on tel a grass prairie, etc. Standard type symbols listed in Wildlife Management Series . sycon eman No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED:

Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO:

This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. Chara-balled Greven

REMOVALS:

British Relation Indicate total number in each category removed during the report period.

(6) TOTAL:

Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS:

Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

# REFUGE GRAIN REPORT

Refuge Lake Ile	012 (10)		i Cieto, u	ingital in	es biolos		Months of	May	thru Aug	net 19	/52
(1)	(2) (3) (4) ON HAND RECEIVED BEGINNING DURING			GRAIN DISPOSED OF TRANS-				(6) ON HAND END OF	PROPOSED USE		
VARIETY	OF PERIOD	1	TOTAL	FERRED	SEEDED	FED	TOTAL	PERIOD	SEED	FEED	SURP.
Wast	75		75		-		-	75	-	78	
Barley	50	-	80			-		80	19% o = 15.71	. 80	-
Spelts and Wheat (Mixed)	191	9-91-601	191	-	•	-	-	191		191	-
	(5) Bellori	eer at 9 ary Sua	in received	daring liged p	pariod f		ionicae s	10) 10 sta	A Dr Lo	ile-	
	1) Exer	cor cabe	or Repro	ENG GIR	Y Coro		prode sti	al ato	googage .	w7A	
	PHIRADILE PHIRAD		at -50 10	COMP.		in in and	Virad—50			LOTERAT OT	
TOTALS:	298		296	101 196	hanbada -	••	60017 100	296	ath thin	296	
0.00	The repor	ahogid i	GVET BILL	grain on	başd, se	elved.	or gradues	e so, gruz	15 150 25	LI DO	
(8)	Indicate s	hipping o	r collecti	on points	3						
(9)	Grain is s	tored at	Le	ke Ile		, , , , , , , , , , , , , , , , , , ,					
(10)	Remarks								<u> </u>		

#### NR-8a REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

#### EASEMENT REFUGES IN DISTRICT IV-A

No.

#### CLEARWATER LAKE.

## I. General.

This easement was visited on July 16 for the purpose of making a brood count. The dry conditions that have prevailed in this area are reflected in the very low water level in this lake.

## II. Wildlife.

At the time of the visit there were an estimated 400 ducks on the area, mainly dabblers. Brood count data are contained in the accompanying table on page 43.

## III. Physical Developments.

The easement area is in need of new signs and markers to replace those that have been shot up by the local yokels. This reposting will be completed before the opening of the hunting season.

#### SHELL LAKE NATIONAL WILDLIFE REFUGE.

## I. General.

This easement was visited by Stan Smith, Student Assistant, on July 11 for the purpose of making a brood count.

## II. Wildlife.

At the time of the visit approximately 100 ducks were observed, mainly Mallards, Redheads and Canvasbacks. Brood count data are shown in the accompanying table on page 44.

#### LAKE ZAHL NATIONAL WILDLIFE REFUGE.

#### I. General.

Water levels have remained high at this easement all during the dry summer months. As in past years the lake was supporting large waterfowl concentrations.

#### II. Wildlife.

At the time of the brood counts, July 11 and 12, there were an estimated 5,000 ducks on the area. Of these, 60 percent were divers with the balance being mainly Mallards, Pintails, and Blue-winged Teal. Complete brood count data are contained in the accompanying table on page 45.

Also observed on the area were 150 White Pelicans, 125 Avocets, 150 Dowitchers, nine Black-crowned Night Herons, and 250 Western Grebes.

## III. Physical Developments.

One mile of fence has been completed on the west boundary of the recently acquired school section and posts have been driven on the north and south boundaries. We have the materials needed to complete the job on hand and it is planned to finish the job in the very near future.

The refuge signs and markers are in bad shape and will be replaced as needed prior to opening of the hunting season.

Badgers have continued to work in the dike at this easement and we have a never ending job of filling in their diggings. This job will also be taken care of yet this fall.

## BROOD COUNTS - CLEARWATER LAKE July 16, 1952

*	CLASS	*		L	A	*		IF	3	*		IL	A	ajt	I	IB		*	II:	Ι	,	je .	T	ATC	LS	*
*	SPECIES		Number Broods		Number Young		Number Broods		Number Toung		Numbe Brood		Number Young		Numbe: Brood		Number Young		Number Broods				umber roods		our	
*	Mallard	*	1	*	7	*		*		*		*		aje.	1	*	9	*	1	*	6	*	3 -	z¢ε	22	*
*	Pintail	*	1	*	8	*		*		*		*		*	1	*	6	*		a)¢		*	2	*	14	*
*	Blue-winged	Tea!	1 3	*	16	*	00 00	*		*		*		*		*		aje		*	*** ***	*	3	*	16	*
*	Ruddy Duck	*	1	*	9	*	1	*	11	*		*		*		*	*-	*		*		*	2	*	20	*
ajc	Unidentified	*		*	-	2	<b>1</b>	ak	7	*	1	aj¢	5	*		*	-	*	-	*		*	2	ajk	12	*
*	TOTALS	*	6	*	40	2	<b>*</b> 2	a c	18	*	1	*	5	*	2	*	15	*	1	*	6	*	12	*	84	*

# BROOD COUNTS - SHELL LAKE July 11, 1952

*	CLASS	*	I		*		IB	*	IIA		*	II	B L	*	II	I	*	TOT	TALS	*
*	SPECIES	*	Number * Broods *			Number Broods	Number Young		Number Broods	Number Young	*	Number Broods								
*	Mallard	*			*	1	7	*			*			*			*	1	7	-33
*	Canvasback	*			*			於	1	5	*	2	11	*	2	6	*	5	22	*
*	Unidentified	*		-	*	-		*			*	2	11	*	-	dity-tala	*	2	11	*
*	TOTALS	*			*	1	7	*	1	5	*	4	22	상	2	6	*	8	40	*

## LAKE ZAHL NATIONAL WILDLIFE REFUGE BROOD COUNTS July 11 and 12, 1952

*	CLASS	*		IA		*		I		*		II		*		II		*		III		*	TOTAL	*
*	SPECIES	46	Number Broods		Number Young		Number Broods		Number Young		Number Broods		Number Young		Number Broods		Number Young		Number Broods				Number Young	*
*	Mallard	*	4	*	31	*	1	*	5	*	3	*	19	*	2	a)¢	11	*	3	zψc	12	*	78	*
*	Pintail	zķt	3	*	19	*	1	*	9	*	1	aj¢	8	z c	1	*	10	*	1	*	5	*	51	*
*	Gadwell	*		*		*	1	*	6	*		ajt		3¢	1	*	2	*		*		*	8	*
*	Baldpate	*		*		*	1	*	6	*	1	*	5	*		a)¢		**		a)c		ak	11	*
水	Shoveller	*	1	*	8	*	1	<b>3</b>  C	7	*		*		*	1	*	7	*	000 EFE	*		ajt:	22	*
*	Blue-winged	real	1 7	*	67	*	2	aje	16	*	1	*	7	*		*	en en	*		*		aje	90	*
*	Green-winged	Tes	al 4	aje	21	*	400 400	*		ajt.	1	*	5	*	1	*	5	*		*		ak	31	*
*	Canvasback	*	1	*	7	*		*	-	эķс	2	*	16	*	2	*	9	*		*		*	32	*
*	Redhead	*		*		*	2	*	17	.*	es es	*		*		*		*		*		aje	17	*
*R	uddy Duck	*	4	*	23	*	1	*	6	*		ajk		*		*		*	40 40	*		*	29	*
*	Unidentified	aje	3	ajk	19	*	6	*	35	*	3	*	18	*	2	*	8	*		*		*	80	*
*	Coot	*	2	*	6	*	3	*	6	a)¢	2	*	3	*		*		*		*		*	7	*
*	TOTALS	*	29	*	201	*	19	*	113	*	14	*	81	*	10	*	52	*	4	*	17	*	464	*

receive careful attention since these data are necessarily based on an analysis of the rest of the form. Refuge Clearation Lake Months of Many 1 to Angust 1 508 19 Kg 19

(1)	with ox (2)	y not be	more tha(3	hat used	or besk (4	TO CHURTAR PT C	ns, depend	5) R mbon g	e na (6)
Species		een	Peak Conc	entration	Last !	Seen a direct	Young P	roduced	Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. Swans:		DE GOOD			Managras			TOTAL	
Whistling swan								ounts on re	
II. Geese:	period.								
Canada goose Cackling goose Brant	The last	refuge :	ecord for t	re abecres	during the	season co	ncerned in	the report	Jug
White-fronted goose Snow goose	The gree	test numi	er of the s	pecies pre	ent in a l	mited int	erval of t	Lme .	
Blue goose			muper seen						The state of
(2) First seen:	Ine first	t refuge	record for	he specia	during th	Season o	ongerned 1	n the repor	ting
II. Ducks: Mallard	Barrager ag	orrope pl	ectes of lo	WIT OFFICE AND	TATES OFFI	7770001005		80	200
Black duck							BOTST STORE	ntion shoul	1900 000 000
Gadwall								einge dwii	
Baldpate				The state of the s	17.4				
	1	1					· La Land		50
Pintail Pintail			LIANE	COCTIONS			2	80	
Pintail Green-winged teal			- IMBNI	TUCTIONS				80	150
Pintail Green-winged teal Blue-winged teal			- Ingai	WCTIONS	Reported b	ge <sub>les</sub> i (	2		50
Pintail Green-winged teal Blue-winged teal Cinnamon teal			TIMA	MOLION	Reported b	i gena		80	180 180
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller			- IMERI	MOTIONS	Reported b	i gona i		80	150
Pintail Green-winged teal Blue-winged teal Cinnamon teal			- TAXAA		Reported b	i ichu		80	180 180
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller 120 Wood duck				MOLION	Reported b	lenn i		80	180 180
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller 120 Wood duck Redhead			TANGAI	ing s	pal nesting		r ju <b>š</b> u	<b>80 48</b>	180 180
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller 100 Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head				Prino	pel nestin	g areas th	a acauon	48	180 180 80 10
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller IPO Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye	n brood cou			Prino	pal nestin	g areas th	a acauon	<b>80 48</b>	100 100 100 100 100
Pintail Green-winged teal Blue-winged teal Cinnamon teal Shoveller 100 Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head				Areas	pel nestin	remtratio	a acauon	48	180 180 80 10

3-1750 (over) (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

3-1750 SAMWELES (Sept.1950) Interior - Duplicating Section, Washington, D.C., 82449

3-1750		SULLERIES			
Dates waterfowl counts mad	e 7/16/52	Total waterfowl u	sage during period	855	7.5
Percent of waterfowl area	covered 100%	Peak waterfowl nu	mbers		
Dates brood counts made	7/36/58	Areas used by con	centrations	water are	1.50
Percent of area covered in	brood counts	THE COURT OF THE COURT			
Total production:		Principal nesting	areas this season	ex.	TQ TG
Geese		The state of the s			YYS
Ducks 150					50
Coots		Reported by	John R. Fryn	46	TRO
Pintall	_	INSTRUCTIONS	S	20	780
(1) Species: (2) First seen:	reporting period should given to those species of the first refuge record period, and the number s	listed on form, other spe be added in appropriate sp of local and National signi for the species during the een. This column does not	aces. Special attendicance.  season concerned in apply to resident s	ntion shoul n the repor species.	d be
(3) Peak concentration:	The greatest number of the	he species present in a li	mited interval of t	Lme.	
(4) Last seen:	The last refuge record for period.	or the species during the	season concerned in	the report	ing
(5) Young produced:	sentative breeding areas	g produced based on observ Brood counts should be	made on two or more	areas aggr	egating
Common Name	10% of the breeding habi	tat. Estimates having no	basis in fact should	1 be omitte	d.lor peri
(6) Total:		of the species using the rechan that used for peak connent.			

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Refuge Shell Lake

Months of May to August 19 52

	(1) Species	(2 First		Peak Conc		(4) Last S		Young P	5) roduced	(6) Total
	Common Name	Mumber	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I.	Swans: Whistling swan	Estimate sentativ	s breedin	of young programs are	ood count	should be	made on t	NO CE MOTE	I Per Sent TY	egating s
II.	Geese: Canada goose Cackling goose Brant	The last period.	refuge i	scord for th	e species	during the	serach co	icerned in	the report	lng
	White-fronted goose Snow goose Blue goose			unber seen.						
III.	Ducks: Mallard	me firs	refuge	ectes of loc	he species	durding the	Select of			300 Surg
	Black duck Cadwall Baldpate Pintail	reportin	period	birds list should be ac	ed on fore ded in app	roprisce ap	aces . Spe	ring on r	the during 50	50 50 200
	Green-winged teal Blue-winged teal					gabonged på			20	200
	Cinnamon teal Shoveller Wood duck Redhead					Parent of 100	Stanley	M. SEEDIL	10	50
	Ring-necked duck Canvas-back Scaup				Princi	al nesting	areas thi	a accason	50	200
	Buffle-head	prood som	58 (5)							100
	Ruddy duck Unidentified	17/2			Areas	ранс ра сол	dentration	2		100
IV.	Coot:	evered				sterforl nu				
					Total	mberford u	sage durin	g period		

3-1750 (over) (Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449

(Sept 1950) Interior - Duplicating Section, Washington,

or States				27.00	25 7127 2
Dates waterfowl counts made	7/11/52	Total waterfowl us	age during peri	od 1150	
Percent of waterfowl area of	overed 100	Peak waterfowl num	bers		Frv Sax
Dates brood counts made	/11/52	Areas used by cond	entrations		
Percent of area covered in	brood counts 75				7(90)
Total production:		Principal nesting	areas this seas	on	300 3
Ducks 140		Toward at her	Stanley E. Sm	Ch. Sivilent	Anailatant
Coots		Reported by			
Pimbail.	_I	NSTRUCTIONS		1004	News III
(1) Species:	In addition to the birds I reporting period should be given to those species of	e added in appropriate spa	ces. Special a		
(2) First seen:	The first refuge record for period, and the number see				orting
(3) Peak concentration:	The greatest number of the	e species present in a lim	nited interval	f time.	
(4) Last seen:	The last refuge record for period.	r the species during the s	season concerned	in the repo	rting
(5) Young produced:	Estimated number of young sentative breeding areas. 10% of the breeding habits	Brood counts should be m	nade on two or n	ore areas ag	gregating
(6) Total:	Estimated total number of may or may not be more that of the migrational movement	an that used for peak cond			

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

receive careful attention since these data are necessarily based on an analyzis of the rest of the form. Hope | Out | Column Refuge | Lake Zahl | 10 Labory | 10 Months of 9 Po May | 11 To 9 to 97 August | 19 58 100

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	Species	First	Seen	Peak Conc	entration	Last S	een	AND RESIDENCE AND PERSONS ASSESSED.	roduced	Total
	Common Name	25 mil	Do A a		TO DE A SE O O	Number	Date	Broods	Estimated Total	Estimated
T	Common Name	Number	Date	Number	Date	Number	Control of the last of the las	Seen	TOTAL	for perio
I.	Swans: Whistling swan	Estimate	d number	or konng pr						
II.	Geeses	bernog *		The state of the s	,					
	Canada goose	The last	refuge :	secord for t	ne species	during the	Season co	ncerned in	the report	ing
	Cackling goose						7			
	Brant									
	White-fronted goose	The gree	test num	er of the s	pecies pre	sent in a l	mitted int	erval of t	Ime.	
	Snow goose								В.	
	Blue goose			umber seen.						
	(2) First seen:	The firs	t refuge	record for	the specie	during th	Setaon o	oncerned 1	n the repor	ting
II.	Ducks:									
	Mallard			ecies of lo				18	150	1,000
	Black duck			should be a						
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	Baldpate			-					80	100
	Pintail			THEI	CUCTIONS				102	800
	Green-winged teal							- 10	180	180
	Blue-winged teal	200				Reported by	John 1	Paris	700	<b>5</b> 00
	Cinnamon teal		111	7					45	125
	Shoveller Wood duck						-		-	200
	Redhead	e I gaz			-				54	<b>5</b> 06
	Ring-necked duck			2					-	900
	Canvas-back				TATRIC	pal nestin	67 000 AW	re paroen	64	200
	Scaup	1	1		Delvin	wal nearting	amona 4h			200
	Golden-eye	BT. SERVE CO.	TOD BY	10	40-000-00-00-00-00-00-00-00-00-00-00-00-				-	
	Buffle-head	Montand area	and a fall	N. C.					×	
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	Coot:		1600-0					7	50	1,500
	waterlowd, counts made	1	and in	0.00	30.087	MATCHIONE !	ress durin	6 beiron	5,525	

3-1750 Interior - Duplicating Section, Washington, D.C. 82449

(over)

(Sept.1950) Interior - Duplicating Section, Washington, D.C. 82449 SUMMARIES 7/11 and 12/ 58 Dates waterfowl counts made Total waterfowl usage during period 5,525 1,600 Peak waterfowl numbers Percent of waterfowl area covered 7/11 and 12/82 Areas used by concentrations Intire water area Dates brood counts made Percent of area covered in brood counts Total production: Principal nesting areas this season Geese 00 Ducks 988 46 TES Coots Reported by John R. Propo INSTRUCTIONS 1 1 Baldpagg (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be BIRCK GOOK MAI IA PW given to those species of local and National significance. 7\*000 The first refuge record for the species during the season concerned in the reporting (2) First seen: RIOS SOORS period, and the number seen. This column does not apply to resident species. Saboa Boose (3) Peak concen-The greatest number of the species present in a limited interval of time. tration: Cackling goose (4) Last seen: The last refuge record for the species during the season concerned in the reporting period. (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted. (6) Total: Estimated total number of the species using the refuge during the period. This figure

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

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may or may not be more than that used for peak concentrations, depending upon the nature

## LAKE ILO REFUGE.

#### I. GENERAL.

## A. Weather Conditions.

Precipitation for the period at Lake Ilo was below normal. We were fortunate in that there were no really bad storms (most of the side roads were blocked with snow however for long periods). While there was some severe cold, mild spells occurred quite frequently. In general it was a favorable winter for upland game.

Most of the snow remained on the ground throughout the winter; melting did not start until March 26. The spring rum-off occurred during the period April 1 - 5.

April was very warm with above normal temperatures and no precipitation.

Weather data for the period were as follows:

Month	Precipitation	Snowfall	Max. Temp.	Min. Temp.
January	0.37	6.0	43	-21
February	0.78	12.0	45	-28
March	0.63	13.0	46	-28
April	None	None	90	21
Total	1.78	31.0 Extr	emes 90	-28

## B. Water Conditions.

The ice level was 20 inches below the spillway crest on January 1 and remained at that level until April 1 when the spring rum-off started. On April 1 the water level raised 28 inches, to eight inches above spill crest. A peak of 30 inches above spillway level occurred on April 7. The water level fluctuated between 24 and 30 inches above spill level for three days (April 6, 7 and 8). By April 14 the water level had dropped to 0.4 foot above spill. There was only a very small amount of flow over the spill by April 30.

A winter survey was made by the North Dakota State Department of Health, Division of Water Pollution Control, of Lake Ilo on February 14 and 15. This survey was conducted to determine the effect of the discharge of sewage effluent from the Killdeer sewage plant (into Inlet Creek which empties into Lake Ilo). The following is quoted from the report received:

No adverse influences traceable to the effluent of Killdeer's Imhoff tank were observed in the lake. Liquid wastes proceed only a short distance downstream during low flow conditions.

Table 1. on the following page shows certain physical and chemical features as determined by this survey.

## C. Fires.

None. Although April was very dry, we were very fortunate that no fires occurred.

## II. WILDLIFE.

## A. Migratory Birds.

No mallards wintered on the refuge during the period as they have in the past. The first spring migrants appeared on March 29 when three Green-winged teal were seen. A few Mallards were seen on April 1, and on April 3 the first Pintails appeared. Migration was very slow and later than usual. Fewer goese were seen this spring than usual. 120 Canada goese were observed on the refuge on April 4, 150 White fronted-goese on April 14, and 75 Snow goese on April 15. The usual numbers of diving ducks were present on the refuge in April. It is estimated that 1000 Lesser Scaup, 200 Red heads and 100 Canvas backs were present the latter part of April. 17 White Pelicans were observed on the refuge April 19 and a number have been present since that date. The shore bird migration has been slow; only a few species have been seen - Killdeer, Western Willett and Avocet. Franklin's Gulls, Ring-billed Gulls and Herring Gulls have also been seen. 500 Sandhill cranes were observed on April 8.

## B. Upland Game Birds.

It is estimated that 150 Pheasants were using the refuge during the period. The Pheasants wintered very well and it is believed that there were no winter losses.

A number of Sharp-tailed Grouse have been observed on the refuge and in the vicinity of the refuge during the period. Four Sharp-tails were found dead; it is believed these birds died as a result of flying into highline wires.

Only a few Hungarian Partridge have been observed on the refuge this spring. It was estimated that 40 were using the refuge during the winter, but their numbers declined. It is estimated that only 20 were using the area during April.

Table 1. Lake Ilo - Physical and chemical features

Station	Depth water	Depth	Depth sampled	Bottom	Temp.	рН	02	Bicarb.	NH3	N <sub>O</sub> S	PO <sub>4</sub>	Free CO <sub>2</sub>
Near Dam	41	31	Water surface	Sandy	1/20	7.5	4.4 ppm.	222 ppm.	1.8 ppm.	0.0	0.0	-
Before FWS Station	91	31	Water surface	Muck	10	7.5	6.0	222	1.6	Tr.	0.0	12
			51	**	10	7.5	5.2	226	1.4	Tr.	0.0	12
			61	•	20	7.4	3.2	242	1.6	0.0	0.0	13
			91	449	2.50	7.3	1.2	266	1,8	0.0	0.0	18
Mouth of Inlet Creek	3,51	31	Water	Muok	1.50	7.3	4.0	234	1.1	0.0	0.0	and some
			3 t	**	-		0.8	-		-		

## C. Big Game Animals.

None have been observed on the refuge during the period.

## D. Fur Animals, Predators, Rodents, and other Mammals.

A permit was issued to trap fur-bearing animals on the refuge. Eight mink and 34 muskrats were trapped during the season. The trappers share which was one-half of the catch was sold for \$87.00. The refuge share has not yet been sold.

A few skunk have been observed on the refuge this spring. It is believed their numbers were reduced by gassing dens last fall.

One fox was observed on the refuge during the period. No coyotes have been observed on refuge or in the immediate vicinity this period.

Three beaver were trapped near the refuge and one was observed on the refuge this spring.

A number of muskrat have been observed on the refuge this spring; it is believed they survived the winter better than usual. There should be a good population this fall.

A number of weasel were observed this winter; none were trapped. It is believed their number is small and approximately the same as last year. See NR -4 for summary of small mammal populations.

## E. Predacious Birds, including Crows, Ravens, Magpies.

A few Golden Eagles were seen this winter on the refuge but their numbers seemed to be less than usual. The last seen was on April 12. Three Prairie Falcons have been observed on the refuge during the period. A number of Marsh Hawks have been observed - the first seen this spring was on the lst of April. The first Crows appeared during the latter part of March, and they have been present on the refuge ever since.

A large number of Sparrow hawks were observed during spring migration in April.

#### F. Fish.

No winter fishing was allowed at Ilo this year as the fish were too small. Most of the fish winter killed in 1951. It is believed that the fish survived the past winter very well - no dead ones have been observed. A number of small perch and bullheads have been seen along the shore. Small perch and minnows were numerous in the lake last summer when test nettings were made. The water in the lake was tested for oxygen this winter on the 14th and 15th of February and

was considered good for that time of the year. (See Section I,B, Water Conditions).

## III. REFUGE DEVELOPMENT - MAINTENANCE

## A. Physical Developments.

The following maintenance and construction projects were completed during the period.

- 1. Completed installing asphalt tile on basement floor of Ilo Residence. (50% during this period).
- 2. Hauled ashes and rubbish away from headquarters and hauled coal for heating office and garages.
- 3. Opened snow-blocked roads several times and maintained roads.
- 4. Installed new codar shingles and lap-siding, built door and painted granary at headquarters.
- 5. Assisted making an oxygen test of water in Lake Ilo.
- 6. Painted basement of residence, removed paint from shower bath and smoothed concrete walls in basement.
- 7. Made minor repairs on IHC Pickup #I-16949 and Diamond T Truck #I-16956.
- 8. Painted and repaired stake box on Diamond T #I-16956.
- 9. Checked and watched spillway and dam during spring run-off.
- 10. Removed snow from control culverts and road culverts (at Ilo and Easements).
- 11. Cultivated ground for trees that are to be planted this spring.
- 12. Repaired tools.
- 15. Made trip to Des Laos Refuge for fencing materials and boat.
- 14. Repaired oreek crossing on refuge road.

## B. Plantings.

No grain crops are to be planted by refuge personnel. The following cooperative farming permits are in effect for agriculture use on Lake Ilo:

Permit No. 81 - Charles Schollmeyer - 55 acres barley or wheat; Permit No. 82 - Tom Donohoe, 45 acres barley and wheat, 1/3 to 1/2 of land will be summer fallowed. No seeding has been accomplished to date.

#### IV. ECONOMIC USES.

- A. Grazing. None this period.
- B. Haying. None this period.
- C. Fur Harvest.

A trapping permit was issued to Mr. A. B. Rosendahl of Dunn Center, N. Dak. for the taking of mink, muskrat, skunk and weasel; the mink and muskrat pelts to be shared on a 50-50 basis. The total take was eight mink, 34 muskrat, and three skunk. See NR 4 for summary of fur harvest.

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

## A. Bird Banding.

One pheasant cock was banded that was caught in the garage last winter. This bird has been observed near headquarters many times this spring.

## VI. PUBLIC RELATIONS

## A. Public Uses.

- 1. Hunting Use. None.
- 2. Fishing Use. None.
- 3. Miscellaneous Use. The Lake Ilo Recreational area, maintained under cooperative agreement by Dunn County, has been used by several parties of picnickers during April. Trees are to be cultivated and the grounds kept clean. Trees will be planted to replace those killed by mice.

#### DISTRICT IV EASEMENTS

#### HIDDENWOOD

#### I. GENERAL.

Precipitation was below average during the period. The water level was two feet higher than last spring due to the fact that someone had put a concrete plug in the highway culvert. This matter will be investigated on our next easement trip.

#### II. WILDLIFE.

One trapping permit was issued to a local farmer who caught only one mink (sold for \$31.00 to Sears, Roebuck) and 15 muskrats (\$2.10 ea. from Sears). The permittee also reported that he caught four mink near the refuge and that another trapper caught sixemink.

The permittee, Mr. Wilson, caught another would-be trapper running his (Mr. Wilson's) trapline. This undoubtedly accounts for Mr. Wilson's small mink take from the refuge as mink sign had been abundant last fall. This other man had applied for a permit to trap fox on the refuge, despite the fact that no fox sign had been observed or reported.

The area was visited on April 28 and the following ducks were observed: 50 Pintails, 20 mallards, five Canvas backs, six Shovellers and four Lesser Scaup. Five crows and three Sharp-tailed Grouse were also seen. It is believed that a few Pheasants are using the area a local farmer reported that there were a few seen this winter.

## III. PHYSICAL DEVELOPMENTS.

- 1. Contacted trapper in regards to his take.
- 2. Observed birds and checked water level.
- 3. Contacted farmers living near refuge.

#### LAKE PATRICIA

#### I. GENERAL.

This area was not visited during the period as the State Game and Fish Department now controls most of the area, including the part where the water control structures are located.

The snow fall was above normal in this vicinity and the water level is good.

## II. WILDLIFE.

The area was not visited during the report period, but it is believed the usual number of ducks were present during migration. Judging from Pheasant populations around Pretty Rock Refuge it is belived that a number of Pheasants, Sharptails and Huns. are using the area.

#### III. PHYSICAL DEVELOPMENTS.

None.

#### LEGION LAKE

#### I. GENERAL.

Although the snow fall was considered to be below normal in this vicinity during the period, the snow contained a large amount of water and the run-off was greater than normal. The water level was two feet above spillway crest on April 3 and reached a peak of three feet on April 5. A small stream was flowing over on April 20 and April 28 when visited. The water level was approximately 12 inches below crest at the beginning of the period.

Although the rocks that were placed on the slope of the spillway last fall were washed down below the spillway they must have done some good, as the spillway did not wash out. It is now in very poor condition but still holding. Due to the fact that this area will be flooded by the Garrison Dam in the near future, we are not very concerned about the present condition.

## II. WILDLIFE.

It is believed that the usual number of birds used the area during the spring migration. The following birds were observed when the area was visited: April 3 - three Pintails; April 20 - one Great Blue Heron and 150 ducks consisting of Lesser Scaup, Mallards, Pintails, Shovellers, Baldpates and Canvas backs. On April 28 it was estimated that 100 ducks were on the area; these were Mallards, Pintails, Shovellers, Lesser Scaup, Canvas backs and Redheads.

The usual numbers of Sharp-tails, Huns, and Pheasants are believed to have used the area. None were observed on the refuge when visited, but a number of these birds were observed in the vicinity.

A trapping permit was issued to a local farm boy who caught four mink. No muskrats were trapped as their population was very small.

#### III. PHYSICAL DEVELOPMENTS.

- 1. Structures were inspected and water levels checked on April 3, 20 and 28.
- 2. Birds were observed on the above dates.

#### MCLEAN

## I. GENERAL.

The water level was one foot below spillway crest at the beginning of the period. It was inches above crest on April 3 and the peak was two feet on April 20. A small stream was flowing over the spillway on April 28.

The structures were checked on April 3 and 28 and the spillway appeared to be in good condition. A small amount of wash had occurred on the dam; this will be repaired this summer. There were a few sunken places in the dam, caused by muskrats runs, which will also be repaired this summer.

The snowfall was considered below normal and there was no precipitation in April.

#### II. WILDLIFE.

Two trapping permits were issued to local farm boys. Sixteen muskrats and one mink were trapped. The mink was sold for \$20.00 and the muskrats for \$0.75 each to a local buyer.

It is believed that the muskrat population is larger this spring than usual. It was also noted that several mink are using the area. A few Sharptailed Grouse, Hungarian Partridge and Pheasants are using the refuge. None were actually observed but were reported to be present by farmers and trappers.

It is believed that the usual number of waterfowl used the area during migration. The following birds were observed on April 28 - 30 Lesser Scaup, 20 Pintails, 20 Mallards, six Shovellers, and five Canvas backs.

## III. PHYSICAL DEVELOPMENTS.

- 1. Structures and water levels were checked on April 3 and 28.
- 2. Birds were observed on April 28.

## PRETTY ROCK

#### I. GENERAL.

The snowfall in this vicinity was above average during January, February and March. No precipitation occurred in April.

The water level was ten inches below spillway crest at the baginning of the period. The run-off started on April 1 and the peak of three feet above crest was reached on April 4. A small stream was flowing over the spillway on April 20.

## II. WILDLIFE.

On April 20 an estimated 300 ducks were observed; these were Scaup, Shovellers, Pintails, Mallards, Blue-winged teal and Baldpates. Twenty Pheasants were also seen. There appeared to be fewer waterfowl than usual on this area.

The Pheasants appeared to have wintered very well; it is estimated that 300 used the area during the report period. (This number was reported by a farmer living on the refuge who complained that they had done a great deal of damage to his stacks; last year he complained that there weren't any!)

No Sharp tailed Grouse or Hungarian Partridges were observed but it is believed the usual number are using the area. Several were observed in the vicinity.

Two trapping permits were issued; one permittee was contacted who had caught one mink and 14 muskrats. He also reported that he believed the other trapper had caught about the same number. Signs of muskrats were observed and it is believed the muskrat population will be larger than usual this fall.

## III. PHYSICAL DEVELOPMENTS.

- 1. A channel was shoveled through the snow in the spillway and under the highway bridge on March 31.
- 2. Structures were inspected on April 20 and flood damage was estimated.
- 5. Birds observed on April 20.

#### Structures:

The spillway that was repaired last year, by installing piling and concrete caps over piling at crest of spillway, appeared to be in good condition. There was some wash below the apron on the down stream side of the spillway, and a small portion of the north down-stream wing wall that is constructed of rocks had caved in. It is estimated that 100 cu. yds. of rock placed below the spillway will adequately repair the damage.

The highway that crosses the lake on the west side appeared to be in good condition, with the exception that the gravel and scoria that had been placed on the surface was all gone (this washed away during the 1950 run-off).

The dike appeared to be in good condition with the exception of a few muskrat runs. A small amount of repair work will be necessary. The fence around the dike also is in need of repair.

#### STEWART LAKE

## I. GENERAL.

Snowfall was above normal during January, February and March. No precipitation occurred in April. The spring run-off was later than usual and believed to be about the same as the 1950 run-off, possibly a little larger. It is estimated that the peak run-off was three feet above spill crest on April 7. An attempt was made to visit the refuge on March 29 before run-off started but it was impossible as roads were blocked. On April 5 the structures were checked and the spillway was clear of snow. The run-off had not reached the lake on this date but came in on April 6 and 7.

The area was visited on April 19 and structures were checked and birds observed.

The spillway was found to have been damaged by the high water during the run-off. This spillway is constructed of loose rock and a large amount of damage occurred during the 1950 spring run-off when the rock settled on the slope and a portion of the wall settled. This spring during the run-off more of the slope settled and most of the south wall settled or was washed completely away. It is estimated that this spillway could be temporarily repaired with the following work:

150 cu. yds. of fill to be placed in wash in wall.

60 cu. yds. of rock in wall.

300 cu. yds. of rock in slope and crest.

60 cu. yds. of scoria or gravel to be placed under rock that are to be placed along wall.

This spillway could last for many years as it is, due to the fact that there is a natural spillway between it and the lake proper. This natural spillway is approximately 1000 feet long. The present rock spillway is actually several hundred feet from the lake.

## II. WILDLIFE.

It is believed that the usual numbers of waterfowl used the area this year.

The severe storms in March caused an estimated 80 percent loss of the pheasant populations. Sharptails and Huns, however, are present in usual numbers.

## III. PHYSICAL DEVELOPMENTS.

- 1. Structures were checked on April 19 and an estimate of flood damage and repairs needed was made.
- 2. Birds were observed on April 19.

#### WHITE LAKE

#### I. GENERAL.

The snowfall in this area was above normal in January, February and March. No precipitation occurred in April. The spring run-off was heavy and the peak was approximately one foot above spillway level. Only minor damage occurred on this easement.

#### II. WILDLIFE.

On April 19 an estimated 350 ducks were observed; these were Mallards, Gadwalls, Baldpates, Pintails, Shovellers, Redheads, Canvasbacks and Scaup.

The severe storms in March raised havoc with the Pheasant population in this area; it is estimated that 80 percent of the population was killed. The Sharptails and Huns were not seriously affected and it is believed they are present in usual numbers.

Fur bearer populations remain at their usual levels. One trapping permit was issued and four mink were taken.

## III. PHYSICAL DEVELOPMENTS.

- 1. The refuge was visited on April 19; structures were checked and an estimate of flood damage was made.
- 2. Birds were observed on April 19.

NOTE: The report this period for Lake Ilo and the District IV Easement Refuges is based on data supplied by Mr. Chesley M. Dinkins, Maint. Man (General) of Lake Ilo.

receive careful attention since these data are necessarily based on an analysis of the rest of the form. Morel Curil colon Refuge 10 lake Thome. Lebold III be Months of 4 - 20 James 14 13 90 to 201 Aveil the 19 12 68

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	Species	First	Seen	Peak Conce	entration	Last S	een	Young P.		Total
				and annual on a		a temaning.	DOMESTIC TO	Broods	Estimated	Estimated
-	Common Name	Mumber	Date	Number	Date	Number	Date	Seen	Total	for period
I.	Swans: Whistling swan	Estimate	d number	of young pr		ed on obser			ounts on re	pre-
II.	Geese:	period.								
74	Canada goose	120	4/4	SCOT 800 P &	4/6-34	during the	8-4/15 CO	ncerned in	the repor-	Ing 800
	Cackling goose	10-							- <u>1</u>	
	Brant The State of	1			handan dar o	LOWER BOX OF THE		OF ACT OF	V'9000' 0	
	White-fronted goose	140		EL OND B	6/16-20	80 emt 120 a l	1/14	errel of t	1 ALPER	2.80
	Snow goose	berrog <sup>a</sup>	4/25	umber seen.	4/14	mm goes ro		Leginger	abectes .	90
	Blue goose	THE TITE	r Letake	record for	wie specie	a during on	a serson o	onderned 1	u cue repoi	Sura
II.	Ducks:	40,44	a magnine	100		dund a th				
TT 0	Mallard	STARM PO	4/200	ect = 600 Io	4/2-10	Homel sign	Ilcancs.			1000
	Black duck	reportar	g period	The same and the s	ided in ap	mopriate a	sces. Sp	eclal atte	ncton shou	g pe
	Gedvall	In adjust	4/21		sed on for	a, other sp	clas eccu	ering on r	chub egule	g th <b>80</b>
	Baldpate	80	4/4	800	4/4-15					400
	Pintail Pintail	15	4/8	800	4/6-15					1000
	Green-winged teal		3/29	20	3/29-4/10					80
	Blue-winged teal Cinnamon teal	80	4/24	200	4/20-30	Reported by	Chesle	. M. Dinki	VE	800
	Shoveller Wood duck	2	4/14	100	4/14-30			- 1 × 1		800
	Rednead Ring-necked duck	25	4/18	800	4/15-20					300
	Canvas-back	*	4/18	800	4/15-80	pal nestin	g areas th	S SOASON	Annaham dayahan in in takan	200
	Scaup	20	4/12	1.200	4/20-50	-			2.0	1.000
	Golden-eye	proog mon	4/22	20	4/25-80					80
	Buffle-head		4/22	20	4/20-30			-		83
Martes	Ruddy duck	80	4/26	200	4/25-80	used by co	centratio	18 9370	Fo sren.	200
	ent of materiowl area		- 4			waterfowl m	umbers		9860	
	Coot:	80	4/30	20	4/80			0.7		20
ates	s waterfowl counts made				Total	** sterford	neage duri	ng perlod	6770	1

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3-1750 (Sept.1950) Interior - Dup				SUMARTES	Form NR-
Dates waterfowl counts made		1 . 1		Total waterfowl usage during period 5770	1
Percent of waterfowl area c		J 4.	30	Peak waterfowl numbers 4560	50
refrent of Maretions area c	OAGLOG _				
Dates brood counts made	80	4/36	800	Areas used by concentrations entire area.	800
Buffle-head	. 2	4/22	20	4/80-50	50
Percent of area covered in	brood co	The state of the s	30	6/25-50	80
Seaup	(Care )	4/12	7300	4/80-80	T200
Total production:		4/18	500	Principal nesting areas this season	800
Rang-necked duck	delican				
Geese	25	4/15	200	4/18-50	100
Wood dwak	979	above.	woo	Manager .	55.75
Ducks	5	6/14	700	4/24-20	000
Circanon teal	60.0	artices.	500	Reported by Chesley M. Dinkins	(X)
Coots	30	4/20	500	Reported by	
Pincali	79	676	TNS	TRUCTIONS	o C
Baldpate	500	0/6	200	1100022019	700
(1) Species:	In addi	tion to th	e birds li	sted on form, other species occurring on refuge duri:	ng the
STACK CHOK				added in appropriate spaces. Special attention show	
				ocal and National significance.	7000
MAL La TEL	gilven t				
III. Ducks:	given t	•			
III. Ducks:	304				rting
	The fir	st refuge	record for	the species during the season concerned in the repo.  This column does not apply to resident species.	rting
(2) First seen:	The fir	st refuge	record for	the species during the season concerned in the repo	rting
(2) First seen:	The fir	st refuge and the n	record for	the species during the season concerned in the report.  This column does not apply to resident species.	
(2) First seen:	The fir	st refuge and the n	record for	the species during the season concerned in the repo	80
(2) First seen:	The fir period,	st refuge and the n	record for number seen per of the	the species during the season concerned in the report.  This column does not apply to resident species.  species present in a limited interval of time.	130
(2) First seen:  (3) Peak concentration:  (4) Last seen:	The fir period, The gre	st refuge and the n atest numb	record for number seen per of the	the species during the season concerned in the report.  This column does not apply to resident species.	130
(2) First seen:  (3) Peak concentration:	The fir period,	st refuge and the n atest numb	record for number seen per of the	the species during the season concerned in the report.  This column does not apply to resident species.  species present in a limited interval of time.	130

may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

Estimated total number of the species using the refuge during the period. This figure

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

Common Name

(6) Total:

Note: Only columned to the second of the second of the second of the second of the rest of the form.

(1) Species		(2) First Seen				Seen	A Commence of the commence of	5) roduced	Total	
Common Name	Number	Date	Number	Date	Number	p:Date IV	Broods	Estimated	Estimated for period	
I. Swans: Whistling swan	sentati	e preedi		reod count	should be	made on T	is the live	sreas agg		
II. Geese: Canada goose Cackling goose Brant	The las	reinge	Home opens	red.					dng	
White-fronted goose Snow goose Blue goose			number seen.							
III. Ducks:	Observe	4/28/52	record for	che specie	during th	gerson o	or cerned	a the repo	ting	
Mallard Black duck Gadwall		p partiod	should be a sected of lo	ded in an	propriate s	B.285. ST	ecial atta			
Baldpate Pintail	<b>80</b>	4/28	INSI						200	
Green-winged teal Rlue-winged teal Cinnamon teal Shoveller		4/28			Reported b				20	
Wood duck Redhead Ring-necked duck			P and	1000	<del>nadani</del>				20	
Canvas-back Scaup	99	4/20		Frinc	pal nestin	areas th	s sesson		800	
Golden-eye Buffle-head	u prood co									
Ruddy duck					used by co					
IV. Coot:	dovered			Peak	ateriowl D	mbers -		1 24	and a	

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Dates	waterfowl counts mad	e	Total waterfowl usage during period 1070 Est.	
Perce	ent of waterfowl area	covered	Peak waterfowl numbers	<u>5,3</u>
Date	brood counts made	1 1/1	Areas used by concentrations	7
Perce	ent of area covered in	brood counts		200
Tota	production:		Principal nesting areas this season	aterfowl numbers  ased by concentrations  cal nesting areas this season  Reported by  cother species occurring on refuge during the repriate spaces. Special attention should be lonal significance.  during the season concerned in the reporting m does not apply to resident species.  ent in a limited interval of time.  during the season concerned in the reporting m does not apply to resident species.
	Geese			89
	Ducks	6 4/48		80
	Coots		Reported by	
	Anna - Perilisan Jasen			
	Pintall	INST	UCTIONS	
	(1) Species: (2) First seen:	reporting period should be ad given to those species of loc	ded in appropriate spaces. Special attention should al and National significance. he species during the season concerned in the repor- This column does not apply to resident species.	d be
	(3) Peak concentration:	The greatest number of the sp	ecies present in a limited interval of time.	
II.	(4) last seen:	The last refuge record for the period.	e species during the season concerned in the report	ing
	(5) Young produced:	sentative breeding areas. Br	duced based on observations and actual counts on repood counts should be made on two or more areas aggrees that the basis in fact should be omitted	egating
	(6) Total:		species using the refuge during the period. This hat used for peak concentrations, depending upon the	

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

receive careful attention since these data are necessarily based on an analysis of the rest of the form. Refuge

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Lake Patricle of the Months of the January in the de to pril the 19 52 0

White I very	the second secon			more the (3		for peak (4			2) ig upon tl	e na (9)
11	Species	First	Seen	Peak Conce	ntration	Tast S	Seeme dura			Total.
					a a here a land			Broods	Estimated	Estimated
	Common Name	Humber	Date	Number	Date	Number	Annual Control of the	Seen	Total	for period
I.	Swans:	sentativ	e breedi			s should be				
	Whistling swan	Estimate	d number	of young pr	pduced bas	ed on obser	rations an	d actual c	ounts on re	pre-
II.	Geese:	perlod.								
	Canada goose	The last	refuge :	ecord for t	ne species	during the	season co	ncerned in	the report	dng
	Cackling goose	20		Home observ	eg.					
	Brant									
	White-fronted goose	The grea	test num	er of the s	pecies pre	sent in a l	mited int	erval of t	ime.	
	Snow goose									
	Blue goose	period,	and the r	visited du	THE CO.	mm does no	apply to	resident	species.	
	(2) First seen:	The fire	Area no	2 ATRIAGE 84	Prof. Park		DG THE OF E	my mends	a the repor	ting
III.	Ducks:									
	Mallard			ecies of lo						200
	Black duck	reportin	g period	should be a	lded in ap	mopriate s	aces. Sy	ecial atte	atton shoul	d be
	Cadvall Territoria	In addit	ion to ti	e birds lis	asd on for	1, other sp	clas occu	Fring on I	sfuge durin	
	Raldpate									400
	Pintail			INST	TOTIONS					200
	Green-winged teal									10
	Blue-winged teal					Reported by				200
	Cinmamon teal									
	Shoveller • • • •	• • • •			• • • •					100
	Wood duck									
	Redhead		1							100
	Ring-necked duck				4					
	Canvas-back		_		Princ	pal nestin	areas th	S Sesson		100
	Scaup									400
erce	Golden-eye	brood cou	mts.							10
	Buffle-head									10
Dates.	Ruddy duck				Areas	used by con	centratio	1.8		80%
Lettoe	nt of waterfowl area of	DARTER			Lory	steriowi m	remeta	-		
	Coot:	- Landaudi	2		Book .	atangard m	- Joseph			80
	waterfowl counts made				70.007	waterford,	noeRo mer	e herror		00

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2 3131				
Dates	s waterfowl counts made	9	Total waterfowl usage during period 185	
Perce	ent of waterfowl area	covered	Peak waterfowl numbers	1.0
Dates	s brood counts made		Areas used by concentrations	
Perce	ent of area covered in	brood counts		10
Tota	l production:		Principal nesting areas this season	700 
	Geese			100
	Ducks			
	Coots		Reported by	(AM)
	Death Degitte-test			10
	(1) Species:	In addition to the birds li- reporting period should be	TRUCTIONS  sted on form, other species occurring on refug added in appropriate spaces. Special attentio ocal and National significance.	
III.	(2) First seen:	The first refuge record for	the species during the season concerned in the This column does not apply to resident species.	ne reporting
	(3) Peak concentration:	The greatest number of the	species present in a limited interval of time.	
II.	(4) Last seen:	The last refuge record for period.	the species during the season concerned in the	reporting
I.	(5) Young produced:	sentative breeding areas.	roduced based on observations and actual count Brood counts should be made on two or more are	as aggregating
1	Common Marne	10% of the breeding habitat	. Estimates having no basis in fact should be	e omitted.
	(6) Total:		he species using the refuge during the period that used for peak concentrations, depending	This figure

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

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Note: Only cold Refuse region properties per Mouths of a beginner. It is de to ably the 10 mg es receive careful attention since these data are napessarily based on an analysis of the rest of the form.

	(1)		Jy not b			or peak (4			2) R upon t	e na (6)
	Species	First	Seen	Peak Conc	entration	Last	Seen		roduced	Total
	Common Name	Make on	Date	Number	Date	2 INCOME OF THE	Plate	Broods Seen	Estimated Total	Estimated for perio
I.	Common Name Swans:	Number	Dave	Number		a sponte pe	the same of the sa	26617		
	Whistling swan		Acres and the same of the same	of young p				d actual	counts on r	bre-
	WILLS OFFIGE S WOIL	2011			× .					
II.	Geese:	period.							-	
	Canada goos e	The last	refuge :	secord for	the species	during the	season co	ncerned in	the repor	dng n
	Cackling goose									
	Brant Maryon			None obse	The second secon		-		-	-
(	White-fronted goose	The gree	test num	er of the	apacias pre	sent in a l	mited int	erval of	M me .	50
	Show goose	hormone	DELLA VELO	imper seen	· TITTE COT	THE COOR TO	orbbra co	Leginette	ръестер с	
	Blue goose	Ducks	observed	April 28.	me specie	on Butano, s	R Season e	Difference .	n the repor	TINE
	Ducks:									
	Mal la rd	300 M	#/## al	ecies of l	sal and Ma	clonal sign	ficance.			400
	Black duck	reportin	g period	should be a	alded in ap	propriate a	paces. Sp			
	Gadwall	In at H4	Lon to t	e birds 11	sted on for	a, other sp	xicles occu	rring on :	refuge duri	
	Baldpata			-						300
	Pintail	100		INS	RUCTIONS					800
	Green-winged teal	Home				Reported b	-		-	40
-	Blue-winged teal Cinnamon teal					Reported b				
1	Shoveller	20		1	In the Verter la					40
	Wood duck									
(	Redhead	20					-	-	-	60
	Ring-necked duck				1					
otal	Canvas-back	12		· ·	Princ	pal nestin	g areas th	is season		40
	Scaup	200								800
	Golden-eye	brood cou	nts							3.0
	Buffle-head									10
R.t.es	Ruddy duck				Areas	used by co	m centratio	F 162		400
01.00	it of waterfowl area	CASTSC			Leggy	Materiowi n	In which the second			
	Coot:	-								80
	waterfowl counts made			-	TOOTT	MORETTON	reeke out	R her Torr	7000 005*	

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S	U	IR:	IES

3-1750		SUMARTES	Form NR-
Dates waterfowl counts	made	Total waterfowl usage during period	1480 Est.
Percent of waterfowl a	rea covered	Peak waterfowl numbers	80
Dates brood counts made		Areas used by concentrations	60
aces brook counts made		Areas used by concentrations	1 70
Percent of area covered			10
Sosup	500	Principal nesting areas this season	\$00
Total production:	3.8	Frincipal nesting areas this season	n <u>50</u>
Geese	A V ( )		- 60)
Ducks			
DUCKS	130		90 .
Coots	Leading to the second	Reported by	40
989. 7974ya—1994)			- 60
Baldpate Pintall	ı ı	TRUCTIONS	800
(1) Species:	In addition to the birds li	sted on form, other species occurring on	refuge during the
Hlack chick		added in appropriate spaces. Special at	
Mallard		ocal and National significance.	400
(2) First seen:	The first refuge record for	the species during the season concerned	in the reporting
Show goose Blue goose		. This column does not apply to resident	
(3) Peak concen-	'The greatest number of the	species present in a limited interval of	The state of the s
tration:	Heme abso	naeg*	
(4) Last seen:	The last refuge record for period.	the species during the season concerned :	in the reporting
(5) Young produc		roduced based on observations and actual Brood counts should be made on two or mon	
Common Name		. Estimates having no basis in fact show	
(6) Total:		he species using the refuge during the po	eriod. This figure

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

receive careful attention since these data are necessarily based on an analysis of the rest of the form. Months of January to to prile the 19 52 192

	(1)	MEA OL(2	y nat b	more tha(3	hat used	or peak (4)	centratio	ns, depend	2) Ig upon ti	e na (6)
	Species	First	Seen	Peak Conce	entration	LAST S	een and		roduced	Total
			1					Broods	Estimated	Estimated
	Common Name	Mumber:	Date	Number	Date	Number		Seen	Total	for perio
I.	Swans: Whistling swan	Estimate sentati	d number s breedi	of young pr		ed on obser			ounts on re	
II.	Geese:	period.								
	Canada goose	The last	refuge :	record for t	ae species	during the	season co	ncerned ir	the report	ing .
	Cackling goose				Total Control					*
	Brant				1					
	White-fronted goose	The great	test num	er of the s	pectes pre	sent in a l	mited int	erval of t	I me .	-
	Snow goose									2 10
	Blue goose	perlod.	Ducke ale	muper seems	This col	mu does no	apply to	resident	species.	
	(2) First seen:	The firs		served April	Jey Precla	s during th	Beagon o	meerned 1	n the renor	ting
II.	Ducks:	B-View	amenin a mi							
	Mallard			ectes of lo					VATAR AND	200
	Black duck	Tenor	a nemiod	should be s	ided in an	monthate s	Boes Sp	erial atte	antion shoul	d be
	Cadwall	and the same of th	BARG*	e birds lis	sed on for	a other an	indas ogen	mylno on y	afluga durin	
	Baldpate Pintail	80	. 60	7107	TO A V POSTON					80
		80	4/38	TNST	REGITORS				ì	
	Green-winged teal	Nome obe							-	200
	Blue-wing od teal	NORTH OPE		1		mehar aga a				
	Cinnaman too?		E-150-70			Reported by				800 80 80
	Cinnamon teal					Reported by				20
	Shoveller	6	4/28			Reported by				
	Shoveller Wood duck					Reported by				80 80 40
	Shoveller Wood duck Redhead	80				Reported by				20
	Shoveller Wood duck Redhead Ring-necked duck		4/28		LLTUG		gless on	ra person		40
	Shoveller Wood duck Redhead Ring-necked duck Canvas-back				Princ	pal nesting	areas th	s sesson		40 40 46
	Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup	80	4/28		Princ		areas th	12 80830N		40
	Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye	Seme obse	4/28 4/28 evod.		Prince		areas th	s sesson		40 40 46
	Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup	80	4/28 4/28 evod.							40 40 46
ates ercs	Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head	Sens observations observations	4/28 4/28 evod.		Areas	pel nestin	centration			40 40 46
erce	Shoveller Wood duck Redhead Ring-necked duck Canvas-back Scaup Golden-eye Buffle-head Ruddy duck	Sens observations observations	4/28 4/28 eved.		Peak Areas	used by compal nesting	mbers centratio	FG .	800 Fa*	80 80 40 40 800

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(Sept.1950) Interior - Br	will cating Section, 1			and the same	VATOR TAVA
3-1750		SUM	ARIES	CEO Ret	Form NR-
Dates waterfowl counts made	Meno observed.		Total waterfowl usage duri  Peak waterfowl numbers	1 1	- 24
Dates brood counts made _			Areas used by concentration	ns	1.6
Percent of area covered in	n brood counts				100
Total production:	\$0 \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Principal nesting areas th	is season	200
Geese	(1)				40
Ducks	6 4/28		Leve		50
Coots	Homo observed.		Reported by		20
Baldpate Pintell		INSTRUC	TIONS		50 E 20
(1) Species:	reporting period s	should be adde	on form, other species occud in appropriate spaces. Spand National significance.		ng the
(2) First seen:			species during the season of this column does not apply to		rting
(3) Peak concentration:	The greatest number	er of the spec	ies present in a limited int	erval of time.	118
(4) Last seen:	The last refuge reperiod.	ecord for the	species during the season co	ncerned in the report	ting •••
(5) Young produced:			ced based on observations and counts should be made on t		

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

(6) Total:

10% of the breeding habitat. Estimates having no basis in fact should be omitted.

Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature

Note: Only colm Keine ilea 1999 to appring pe Mouths of a based on an analysis of the rest of the form.

	(1)	mgA or(5	y not b	more that3	hat maed	or peak (4)	centratio	ns, depend	2) Ig upon ti	e na (9)
(41)	Species	First	Seen	Peak Conce				Young P		Total
								Broods	Estimated	Estimated
	Common Name	Mumber	Date	Number	Date	Number	Date	Seen		for period
I.	Swans: Whistling swan	Estimate segtativ	d number e breedi	of young programmes areas. B		ed on obser s should be			cunts on re areas aggi	
II.	Geese:	period.	×							
	Canada goose Cackling goose	The last	reiuge	seord for t	te species	during the	Season co	UCCLUCT TI	the repor	100
	White-fronted goose Snow goose	The gree	Home of	arved, the s	pecies pre	sent in a l	mited int	erval of t	ine.	100
	Blue goose	periods	STATE OF BUTS	miber seen.	This col	mm does no	apply to	resident	species.	
III.	Ducks:	Duoles di	pocred i	pril 80, 100	ate abecte	during th	Season o	oncerned 1	n the repor	ting
	Mallard	200	4/80	eclas 900 lo	4/1-10	donal sign	ficance.			800
	Black duck	reportin		should be a	de ur pepr	mopriste s	ercen* gl	secrat arre	ation shoul	9 00
	Gadwall	In addit	4/30	e birdiols	4/20-50	1, other sp	cles occu	rring on 1	ernte entre	g th 10
	Baldpate Pintail	100	4/20	800	4/1-15					200
	Green-winged teal			600	4/1-10		-			500
	Blue-winged teal			10	4/10-20	Reparted by				10
	Cinramon teal		44	3300	4/20-30	Remarkad by	Ghos	key M. Dir	cine	100
	Shoveller Wood duck	80	4/20	50	4/20-80				.x	60
	Redhead Ring-necked duck	20	4/10	80	4/20-30					60
DEST		8	4/20	50	4/20-20	pal nestin	areas th	TE BOSROU		80
W-1-1	Scaup	100	4/20	800	4/20-50					200
SICE				10	4/10-50					10
	Buffle-head		2.5	10	4/20-30		l			10
ates	Ruddy duck			80	4/20-80	used by con	centratio	n euel	to stor.	80%
Ferce	nt of materiowl area	DVered			Peak	Ricerioni m	mbers		1900	
IV.	Coct:			20	4/20-80					80
ates	Waterford counts made	6			Total	materfowl	reage durin	e beriod	120000	The second second second

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(Sept.1950) Interior - Duplicating Section, Machington, D.C. 82449 SULMARIES Total waterfowl usage during period Dates waterfowl counts made 4/30-90 1860 Peak waterfowl numbers Percent of waterfowl area covered entire area. Areas used by concentrations Dates brood counts made TO I 4/30-90 Percent of area covered in brood counts TO 04:00-20 200 Total production: Principal nesting areas this season \$\\$0 20 Ming-necked duck \$ \50 4/20-50 Geese MOON QUICK 4/30-50 Ducks -60 4/30 00 Cheeley M. Dinkins 4/30~30 Reported by Coots TIGO Green-Winged tes To TASTRIBUTE ONS 600 100 1 1 Hardpere (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. 150 The first refuge record for the species during the season concerned in the reporting (2) First seen: period, and the number seen. This column does not apply to resident species. Score would 700 TOO (3) Peak concen-The greatest number of the species present in a limited interval of time. tration: (4) Last seen: The last refuge record for the species during the season concerned in the reporting period. (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted. Broods Estimated Estimated Estimated total number of the species using the refuge during the period. This figure (6) Total:

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

of the migrational movement.

F.3

may or may not be more than that used for peak concentrations, depending upon the nature

Note: Only columned in Stowart with eporting pe Mouths of the Gamman It is destoable want the 10 med ten receive careful attention since these data are necessarily based on an analysis of the rest of the form.

	(1)	119A 01(2)A 110		3) hat used		centratio		5) g upon ti	e na (9)
	Species	First Seen	Peak Con	centration	Last	Seen -		roduced	Total
			8				Broods	Estimated	Estimated
	Common Name	Number Dat		Date	Number	Date	Seen		for period
I.	Swans:	the second secon	eding areas.		s should be			Charles and the last of the contract of	Contract of the second
	Whistling swan	Estimated mun	mber of young p	roduced bas	ed on obser	rations an	d actual	domits on re	pre-
II.	Geese:	period.			3.75				
	Canada goose	Hone objerve	008 proper 6.2	4/10-20	during the	Season co	ncerned in	the report	200
	Cackling goose		,			<u> </u>			
	Brent Marie								
	White-fronted goose	Hene objerve	1 of 180	4/10-20	sent in a l	mited int	erval of	t Lme .	1.50
	Snow goose	18 4/1	100	4/10-20					100
of the same	Blue goose		the impor seen	. This col	um does no				
	(2) Mirst sem:	The first rel	fuge record for	the specie	s during th	season o	oncerned	in the repor	ting
III.	Ducks:								
	Mal la rd	given to thos	e el ecte3603 I	4/1-20	Monal sign				1000
	Black duck		riod should be	The latter of th				sation shoul	
	Gadwall	In addition t	to the bird 10 d	4/20-30	A, other sp	sales occu	erfing on	refuge durin	E 4130
	Baldpate		200	4/1-20					200
	Pintail		1000	4/1-10					1000
	Green-winged teal		10	4/1-10					10
	Blue-winged teal		500	4/20-30	Reported by	Clacs.	my M. Dir		200
	Cinnamon teal			and the Torri		1			
	Shoveller		80	4/20-30					80
	Wood duck								
	Redhead		30	4/10-80					80
	Ring-necked duck		GOVE -		-				
Total.	Canvas-back		80	4/10-20	pal nestin	areas th	.s seedon		80
	Scaup		800	4/10-20			and any		200
	Golden-eye	brood counts	10	4/20-50					10
	Buffle-head		10	4/10-20					10 %
Dates	Ruddy duck		80	4/20-80	used by con	centratio	le onti	10, elev.	80
Ferce	nt of waterfowl area	DAGLED		Peak	sterioni m	uners		25.60	
	Coot:		80	4/20-30	The straight ma	7.000		er Althon	80
	wateriowi counts mad				waterfowt .	magin agen	R. Fuertree	CONTRACT CON	

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Form NR-1

3-1750 (Sept.1950) Interior - D	milcating Sectaon.	SUMA			Form NR-
Dates waterfowl counts made	ie		Total waterfowl us	age during period	8460
IV. Coot :		50 4/1	0-20		00
Percent of waterfowl area	covered		Peak waterfowl num	bers	8460
Dates brood counts made _			Areas used by conc	entrations entir	o area,
Buffl e-head			0-20	1 - 1 - 1 - 3	T9
Percent of area covered in	a brood counts		0+20		70
Soaup		500 6/1			200
Total production:		50 4/1	Principal nesting	areas this season	80
Geese	1 23 1 3.1	30 2/2	0-80		30
Wood duoic					
Ducks		30 4/8	0-20		20
Cantamon teal.		and the	0.00		
Coots			Reported by	Chesley M. Dink	800
Green-winged cest			-10		- 10
Baldpate Pintall		INSTRUCT	TURS		500
(1) Species:  (2) First seen:	reporting period given to those sp	should be added ecies of local record for the	on form, other spec in appropriate spa and National signif species during the is column does not	ces. Special attericance.	ntion should be
Show goose		700 I W	0~10		700
(3) Peak concentration:	The greatest numb	er of the speci	es present in a lim	ited interval of t	ime. Teo
(4) Last seen:	The last refuge r	ecord for the s	pecies during the s	eason concerned in	the reporting
(5) Young produced:			ed based on observa counts should be m		
Common Name			timates having no b	asis in fact shoul	
(6) Total:		more than that	ecies using the ref used for peak conc	uge during the per	

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

receive careful attention since these data are necessarily based on an analysis of the rest of the form. Months of Jenus to April 19 11

	(1) Species	First			entration	(4)	) Seen		5) Produced	(6) Total
	Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I.	Swans: Whistling swan	Estimate sembati	d number e breedi			ed on obser		d actual (	counts on re	pre-
II.	Geese:	period.								
	Canada goose	3.60	4/4/86					ncerned in	the report	Ing 780
	Cackling goose Brant					lying on re				
	White-fronted goose Snow goose	The great	test numb	er of 100 s	4/10-20	ent in a l	mited int	ervel of	i we	80
	Blue goose			Imper seen						
	(2) First seen:	The firs	t refuge	record for	she apecte	s during th	s season d		in the repor	ting
III.	Ducks:		opeles And					,		
	Mallard	ETA (50)	4/19			Monal sign		-		400
	Black duck	reporti	g period	should be a					antion shoul	100000000000000000000000000000000000000
	Gadwall	IN WEIGH	4/19	e bird 10 Hr	4/20-80	a, other sp	cies occu	Fring on 1	rafuge durin	
	Baldrete	80	4/19	100	4/10-20			7		100
	Pintail Pintail	80	4/19	400	4/10-20		Annual Control of the			400
	Green-winged teal	4 4		10	4/10-20			and the later of t		10
	Blue-ringed teal	Dough		200	4/20-50	Reported b	00000	y M. Dink	1.22	200
	Cinnamon teal	1			1 /20 00		1 5 5 5			
	Shoveller	20	4/19	20	4/20-30					20
	Wood duck		. 60		4 64 55				4	
	Redhead	80	4/19	<b>5</b> 0	4/10-20					100
N. D. ALLEY	Ring-necked duck		. 6-						-	
	Canvas-back	8	4/19	20		pal nestin	areas th	S BERROT		20
	Scaup	100	4/19	200	4/10-20					200
Parea	Golden-eye	brood cor	ration.							
	Buffle-head				ner made	one for many				
	Ruddy duck					used by co		6	NATAO DIOS*	*
	ant of waterfowl area	covered.				sterion! n	unbers	-51	F N	
	Coot:	-		80	4/10-80					80
ates	waterfowl counts mad				Total.	muterford.	sage duri	ag period	17770	

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3-175	(c.1950) Interior - Du				SUTTARTOS				FORM NR-
Dates	waterfowl counts made	в			Tota	l waterfowl us	age during per	iod 1770	
IA*	Coot :	1-		100	4/10-80			1670	50
Perce	ent of waterfowl area	covered _	1		- Peak	waterfowl num	Dera		
Dates	brood counts made				Area	s used by conc	entrations	entire area	lo
Dama	ant of area covered in	hanned new	and a		Acres 1			51	\$ P
Perce	ant of area covered in	TOO TOO	4\T0	800	#\#a-so				300
Total	production:	8	4/10	50	The state of the s	cipal nesting	areas this seas	son	20
	Geese	60	4/10	50	4/10-30		7.00		780
	Ducks	30	4/10	30	4/80-s0				20
	Coots			500	6/30-20	Reported by	Chesley M. D	inkins	300
	Green-Winged Yesil.	Ī		70	#\\ru-10				70
	Saldpate Pintail		4/10	INS	PRUCTIONS				ž
III.	(1) Species: (2) First seen:	reportingiven to	g period those s	should be a pecies of lo record for	added in a cal and Note the speci	ppropriate spa ational signif es during the	season concern	attention sho	uld be
	Blue goode	period,	and the	number seen	This co	lumn does not	apply to reside	ent species.	
	(3) Peak concerntration:	The gree	test num		1	esent in a lim	ited interval	of time.	. E0
II.	(4) Last seen:	The last period.	refuge				eason concerne	d in the repo	rtingT
T.	(5) Young produced:						tions and actual		
	Common Name						asis in fact s		
	(6) Total:	may or n	ay not b		that used		uge during the entrations, de		

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

(1)		2)	(3)		(4	)		(5)	(6)
I. <u>Doves and Pigeor</u> Mourning dove  White-winged dov	er Lina	oj1	rfowl) ass	TA YAOTA elam mar Months	HOIM Jadjo).	osuli	ole Ilo K		Nov. 1945)
(a) Note:	(5) Production	nee	(4) Last S	ETec	Peak Num	пос	(2) First S		(1) Species
V. <u>Predaceous Bird</u> Golden eagle		И	Number	Date	nedmuN	Date	Tedmul		Common Name
Duck hawk Horned owl Magpie Raven Crow				81-02/8	0x3 83	6/19 6/19 6/19	TA ESO	:gbri8	daraM bas rejaW .I  econo fildanas  macilio ecida  creat Elle Marce
						Reported	by		

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

flug bollin make

(2) First Seen: The first refuge record for the species for the season concerned.

OL

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total nu er of the species using the re. e during the period concerned.

(rown)

## REFUGE GRAIN REPORT

Refuge Lake Ilo Months of January thru April 19/52 (5) (7) (1) (4) (6) (2) (3)GRAIN DISPOSED OF ON HAND PROPOSED USE ON HAND RECEIVED BEGINNING DURING TRANS-END OF OF PERIOD PERIOD FERRED SURP. VARIETY PERIOD FEED TOTAL SEEDED FED TOTAL SEED Wheat 75 75 75 78 Berley 30 30 30 Spelts and Wheat 191 191 191 191 (Mized) TOTALS: 295 295 (8) Indicate shipping or collection points

Grain is stored at Lake Ilo

(10)

#### NR-8a REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

## EASEMENT REFUGES IN DISTRICT 4A

# CLEARWATER LAKE NATIONAL WILDLIFE REFUGE.

## I. General.

This easement was visited on April 19. At that time the lake was still about 70% frozen over but all snow had disappeared and the major runn off had occurred. This area received somewhat more snowfall during the past winter and water levels should be satisfactory this summer.

## II. Wildlife.

While the lake was still foozen over, a few ducks were observed utilizing what little open water as was afforded by the lake edges. There were approximately 25 duck observed. The total concentration was evenly divided between Mallards and Pintails.

## III. Physical Developments.

The usual numbers of refuge signs and markers have been used for target practice this past year and these will be replaced later in the summer as time permits.

## SHELL LAKE NATIONAL WILDLIFE REFUGE.

## I. General.

The area was visited on April 19 at which time the lake was about half frozen over. There appeared to have been a heavy run off and water levels will be again satisfactory this year.

## II. Wildlife.

There were an estimated 678 ducks present in the open water areas on the day of the visit. Mallards, Pintails, and Baldpate made up the bulk of the population but there was a good showing of divers, mainly Scaup.

Also observed were 11 American Mergansers, 25 Sharptanl Grouse and 200 Crows.

## III. Physical Developments.

The dike at this easement washed out in the spring of 1950 but the lake has retained satisfactory water levels the past two years. As is the case at all easement refuges, much time will be needed to replaced the many shot up signs and markers.

# LAKE ZAHL NATIONAL WILDLIFE REFUGE.

## I. General.

The area was visited on April 19 and again on April 25. On the first visit the lake was completely free of ice and the major run off had already occurred. There was about 3" of water over the spillway at this time and water levels were much higher than at this same time last year. On the second visit, April 25, the water flowing over the spillway had tapered off to about 1/2". All indications are that there will be very satisfactory water levels in Lake Zahl this summer.

## II. Wildlife.

On April 19 there were an estimated 5,000 ducks present on the lake. Of these an estimated 3,000 were Scaup and the balance being maffe up of Mallards, Pintails and Baldpates mainly, but with a sprinkling of all other common species. When the area was again visited on April 25, the waterfowl numbers had diminished to an estimated 800 birds.

Also observed on the two visits were 12 White Pelicans, 25 Killdeer, 6 Marsh Hawks, 4 American Rough-legged Hawks, 7 Avocets, 1 Black-crowned Night Heron; 300 Lesser Yellow-legs.

# III. Physical Developments.

The dike is in fair condition with only the usual badger holes to be filled in at a later date. This easement suffers the least of any in having refuge signs and markers shot up. Only about 1/3 of these signs will have to be replaced this summer.

Materials have been purchased for the fencing on the Governmentowned School Section and this job will be completed as soon as it becomes possible to spare the time. 40

Refuge Shell(McAlmond) Lake Months of January to April 19 82

i i	(1) Species	First		Peak Conc	) entration	Last S		Young F	5) roduced	(6) Total
	Common Name	Mumber	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
	Swans: Whistling swan	Hone obs	erved.	of young pro	duced bas	d on observed on should be	The second secon	actual o	ants on re	
(	Geese: Canada goose Cackling goose Brant	The last period.	reinge i	scord for S	s species	during the	season co	scerned in	the report	Ing
	Mhite-fronted goose Snow goose Blue goose	None obs		the of the s		mn does not ent in a li		,	hoores	
п.	Ducks:			record for t			Bottaott of		h the repor	175
(1	Black duck Cadwall Baldpate Pintail Green-winged teal	Hone obs	preod.	should be ad	4/19 4/19 4/19 4/19	ropriate ap	ces. Spe	iting on r	afuge durin	r pe
	Blue-winged teal Cinnamon teal Shoveller Wood duck	Home obs	n	20	4/19	Reported by	70	m R. Prye		30
ad	Redhead Ring-necked duck	None obs		13	4/19			•		25
rwy I	Canvas—back Scaup	Hone obs		225	4/19	pal nesting	areas thi	a Senson		15 250
1	Golden-eye Buffle-head Ruddy duck			21	4/19	used by con	nantractor	a Open v	Tier ordes.	30
IV.	Coot :	LASTING -		25	4/19	sterion un	pera	878		35

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Form NR-1

3-1750 (Sept.1950) Interior - Du	plicating Section, Washington,		orm NR-1
Dates waterfowl counts made		Total waterfowl usage during period 715	
Percent of waterfowl area c	covered	Peak waterfowl numbers 678	55
Dates brood counts made		Areas used by concentrations Open water areas.	20
Percent of area covered in	brood counts		
Total production:	880	Principal nesting areas this season	\$20
Geese	Hone observed.		
Ducks	House observed. 18.	4/19	20
Coots	Mens obspryed.	Reported by John R. Frye	20
Pintail Great-winged test	10876	(1.6) + (4) - (4)	125
(1) Species:  (2) First seen:	reporting period should be ad given to those species of loc  The first refuge record for to period, and the number seen.	ed on form, other species occurring on refuge during ded in appropriate spaces. Special attention should all and National significance.  he species during the season concerned in the reporting this column does not apply to resident species.	pe 175
(3) Peak concentration:	The greatest number of the sp	ecies present in a limited interval of time.	
(4) Last seen:	The last refuge record for the period.	e species during the season concerned in the reporting	g
(5) Young produced:	sentative breeding areas. Br	duced based on observations and actual counts on reprood counts should be made on two or more areas aggregations. Estimates having no basis in fact should be omitted.	ating
(6) Total:		species using the refuge during the period. This fighat used for peak concentrations, depending upon the	

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

More supply Clearwater Like Months of James to April 19 18

48	(1) Species		2) Seen	Peak Conc	) entration	Last S	Sen	Young P	5) roduced	(6) Total
	Common Name	Mumber	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I.	Swans: Whistling swan	laba et		n over et t	es de count	on obser	ations ar		ounts on r	
II.	Geese: Canada goose Cackling goose Brant	The last period.	reinge :	scord for t	te species	during the	Season co	ncerned in	the repor	Ing -
	White-fronted goose Snow goose Blue goose	perfod,	and the n	umber seen.	JUITA COT	um does no	e shbya po	residant	pecies.	
III.	Ducks:  Mallard  Black duck  Cadwall  Baldpate  Pintail  Green-winged teal	reporting	g period those sp trefuge	a birds list should be a sales of le	al <b>(Va</b> )	ropriste a donal sign during th	Ress. Sp floance. reason c	polal atte	station show	pe pe
	Blue-winged teal Cinnamon teal Shoveller Wood duck Redhead					Reported by				
	Ring-necked duck Canvas-back Scaup				Princ	pal nestin	g areas th	de season		
	Golden-eye Buffle-head Ruddy duck	Dieod cou	rbs		Arear	ased by cer	pentratio			y.
	Coot;	rvered			Peak	sterfort m	apers -			
stes	waterfowl counts made		1		Total	surperion;	rege quiq	og berrog	-	-

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Form NR-1

0.3100			Warm NTO 3
Dates waterfowl counts mad	6	Total waterfowl usage during period	
Percent of waterfowl area	covered	Peak waterfowl numbers	10%
Dates brood counts made		Areas used by concentrations	
Percent of area covered in	brood counts		
Total production:		Principal nesting areas this season	Beig
Geese	1,000 1,000		
Ducks	the second second		
Coots		Reported by	
- Orest-striked test	TNST	RUCTIONS	
Fincall	1101		-400
(1) Species:	reporting period should be a	ted on form, other species occurring on refuge d dded in appropriate spaces. Special attention s cal and National significance.	
III. Ducks: Mallard	given to those species of to	cal and Mational Significance.	20
(2) First seen:		the species during the season concerned in the r This column does not apply to resident species	
(3) Peak concentration:	The greatest number of the s	pecies present in a limited interval of time.	
(4) last seen:	The last refuge record for t period.	he species during the season concerned in the re	porting
(5) Young produced:	sentative breeding areas. B	oduced based on observations and actual counts or rood counts should be made on two or more areas	aggregating
Common Name	10% of the breeding habitat.	Estimates having no basis in fact should be or	itted.
(6) Total:	may or may not be more than	e species using the refuge <u>during the period</u> . I that used for peak concentrations, depending upo	
35-1	of the migrational movement.		141

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WATERFOWL

Note: Only columned the graph of reporting the Mouths of Termes. In its deright and on the rest of the form.

	(1) Species	First	) Seen	Peak Conc		Last S		Young P		(6) Total
	Common Name	Mumber	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I.	Swans: Whistling swan	llone obes	o niescri voda iper	of young priggares. B	duced bas med count	d on obser		d actual o	ounts on re areas aggi	egating
II.	Geese: Canada goose Cackling goose Brant	The last period.	refuge 1	scord for \$	ie species	during the	season co	ncerned in	the report	ing .
4	White-fronted goose Snow goose Blue goose	ije Etes		umber seen.				A	Cine .	
ııı.	Ducks: Mallard	mostling	refuge	<b>500</b>		during the	neason o			700
	Black duck Cadwall Baldpate Pintail	worker and an	ton to the	speare pe se	4/19 4/19 4/19	, other ape ropriate sp	7.7.7.4.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	ring on r	sfuge durin	100 500 500
	Green-winged teal Blue-winged teal Cinnamon teal	None obser	red.	10	4/25	Reported by				50 50
1	Shoveller Wood duck Redhead	None obser		150	4/19		John	H. Frys		180
otal	Ring-necked duck Canvas-back Scaup	None obser		80 2500	4/19	pal nesting	areae th	\$ 802.80T		100 8000
	Golden-eye Buffle-head Ruddy duck	None obser	0	26 80	4/19	reed by con	o I a Marago	antire ve	ok case*	25
IV.	Coot:	GRASTICH		800	4/10	sterioni nu		4.078		500

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Dates waterfowl counts made		Total waterfowl usage duri	ing period
pades wateriowi country made			5,075
Percent of waterfowl area	covered	Peak waterfowl numbers	4,975
Dates brood counts made		Areas used by concentration	
Percent of area covered in	brood counts	4/19	Butire water area.
Total production:	\$200	Principal nesting areas th	
Geese	Neme chastrad. 50	4/19	190
Mood Guelk	None observed.	4/30	120
Ducks	780	Jeh	in R. Frye
Coots	Tone observed.	Reported by	F 4-1-10
group-kinger best	Maria de la Maria	TRUCTIONS	
Parity L	TAS INS	TRUCTIONS	800
(1) Species:	In addition to the birds li	sted on form, other species occu	rring on refuge during the
Hack dack		added in appropriate spaces. Sp	
Mallard	given to those species of l	ocal and National significance.	3/50
III	The Circular washing around for	the medical dender the person of	and the second of
(2) First seen:		the species during the season of this column does not apply to	
Since goose	<b>P</b> 0-100, 1100 1100 1100 1100 1100 1100 110		
(3) Peak concentration:	The greatest number of the	species present in a limited in	terval of time.
(4) Last seen:	The last refuge record for	the species during the season co	oncerned in the reporting
II. Gesses	period.		
(5) Young produced:	Estimated number of young p	produced based on observations ar	nd actual counts on repre-
Common Name I. Swans:		Brood counts should be made on to. Estimates having no basis in	
	Tarks and all tasks a second of the		Broom Returned Beline
(6) Total:	may or may not be more than	the species using the refuge during that used for peak concentration	
the state of the s	of the migrational movement		

Note: Only columns applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> receive careful attention since these data are necessarily based on an analysis of the rest of the form.

WA TERFONL

3-1754 Form NR-4 (June 1945)

#### SMALL MANMALS

Year ending April 30, 1952 Refuge District 4A Easement Refuges

(1) Species	Density	in cont	Removals				lsposit			esti	Thirds	(5)	
dono elant Conmon Name	in the "Field Book of N	Acres Per Animal	Hunting Fur	Predator Control		search	Share Permit Number	Trappers Share	Refuge an	Total Refuge Furs Shipped	Murs Donated	Furs	Population (S)
Muskrat  Mink  Skunk  Goyote  Badger  Measel  Shell Labe Hat?	significant changes one detailed enough to furn becure the general plots with agriculture land tard type symbols listed where possible. Figure ad counts at reservers and counts at reservers and counts at reservers.	ds, reve c. Stan be used	sted a sype a sype a such car lwo auch at a street at	state		orea th e th e nee ty ty shor on bas on ty sent sent sent sent sent sent sent sent	nould be	netty on te	id id id id id id id id id id id id id i				100 25 20 2 40 8
Skunk  Clearwater Lake  Maskrat  Mink  Weasel		he refug ling und umber, t market, ch spect ated to	m m m  or fel  int i  ppel to  er  or ee	y take wals r	ding a my rem e list	nclu ow a	year, i Also sh -trapped	nucive .rejn	ri eq en en en en en en en en en en en en en	E 70	ALS:	remov DI spo	(a) 15 8 10 15 8 8

Indicate inventory method(a) used, size of sample area(a), ighroductions, and any other pertinent information not specifically requested. 116007

Reported by

Spectes

IsaacW

HIMARKS:

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for (5) estimated total population of each species considered in control operations.)

REAL MARKETS

Ledo(1) SPECIES:

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Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

Refuse District 4A Mesemout

DENSITY: (2)

Applies particularly to those species considered in removal programs. Someon Research Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3)REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

DISPOSITION OF FUR: (4)

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of 'pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided. removals by Predator Anthal Hunter

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested. 116007

Reported by

, 19/52

to April

Refuge District IV Easements, as listed Months of January

(3) (4) (1) (2) (5) (6) (7) Young Sex Species Density Removals Total Remarks Ratio Produced Number broods obs'v'd. Estimated Total For Restocking For Research Estimated Hunting Pertinent information not number Acres specifically requested. Cover types, total using per Refuge List introductions here. acreage of habitat Common Name Bird Percentage LATE ILO No winter kill noted. 150 STORES OF Sharp-tailed Grouse 30 Hungarian Partridge 20 1 4 1 0 0 D SALL SALL 10 Sharp-tailed Grouse 20 Hungarian Partridge 40 LAES PATRICIA Participal (4) 100 Sharp-bailed Grouse 30 Hungarian Partridge LEGION LAKE Phonesis 10 Sharp-tailed Grouse 20 Eugerien Pertridge 20 MOLEAN 15 Sharp-tailed Grouse 20 Hungarian Partridge

#### INSTRUCTIONS

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Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES:	Use	correct	common	name.
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- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

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UPLAND GAME BIRDS

Refuge District IV Easements, as listed Months of January , 194 52 to April (3) (4) (1) (2) (5) (6) (7) Young Sex Density Remarks Species Removals Total Produced Ratio Number broods obs'v'd. Estimated Total For Restocking For Research Estimated Hunting of as teamer ex Pertinent information not number Acres using specifically requested. per Cover types, total acreage of habitat List introductions here. Common Name Bird Percentage Refuge \$ \* CALP ( 1 ( ) CAL Very little winter kill. Phoasant 00 Asted in W. Sharp-tailed Grouse 10 Bedd bedra about Hungarian Partridge bedanthr SPECIAL PARTY Photosops 80% winter Mill. Sherp-tailed Ground landes bas and staves do no m bread , becaber preseding Hungarian Partridge ded tried BVIJ no sas ebuloni .ofe .ches.ente. phesestes et limit to est co HALL STATE if available. Pheasant 20% winter kill. Sharp-tailed Grouse total number in category removed during the ni record Hungarian Partridge wan ald? bolted room this politic substrated in the reduct lated becaming sacosses mistres salvus egrier and odni galiergia esodd suld abri lude resident OR LA nd de la determina population and area corered in anivery bedee per vilselilloge don noldssind but donolfree teddo abulen ed bloude betevoo bother ed of effections ammiloo vido \*

#### INSTRUCTIONS

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Form NR-2 - UPLAND GAME BIRDS.\*

(1) SPECIES: Use correct common name.

- Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
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- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

<sup>\*</sup> Only columns applicable to the period covered should be used.

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## SMALL MAMMALS

SMAIL MANMALS (Inchised data on all emertes of import

Year ending April 30, 1952 Refuge District IV Essensuts, as listed

(1) Species	Density		(3) Removals	To noita.	(5)				
darom e Lamina	Cover Types & Total  Acreage of Habitat	e are found	Fur Harvest Fredator Control	For Restocking For Research	ed common	Trappers Share Refuge	Total Refuge Furs Shipped Furs Donated	Furs	Popula- tion
historia -amic	lake Ilo .aequi zevos	yd ismins	Ser Seros	nressed in	7-4857	17. 17	17		800
	refuge manager as to t				to be pr	ef tota	4		18
	refuge; once submitte			n each cor		number	3	-	0
	significant changes of detailed enough to fu			need not		tie are	•		10
	deverteb enough to to			mation but		tie dre			10
	rting sgriculture land			u .qusws t		Emple			8
leaver mt bi	tail stodmys egyt bist	etc. Stan	pre Lole	nerg grade	,eboowing	ad bosi			1
ottom Tail Rabbit	where possible. Figu			salies inc		Widitt			10
The second secon	d counts on represent			no least		beddim			40
	ample area or areas sh	a lo size of			#57====	elqmie			
fuskrat fink	Hiddenwood		15	Ramar Ca.	5-1400	18 5 1			100
loyete edi le	emoved since April 30	category r	mder eac	r radaun La	tot ent e	Irdicat	St	REMOVAL	0 (3)
	e by Service Predatory			ne luding an		no la endicon	8		10
ladger	er headlogelisted.	falling und	Job slav	ow any rem	de oela	Tella E			
easel									10
	apper's share, and re						T TO MOIT	DI SPOSI	(11)
	including fure taken		e shippe	leg lo rad					20
	institutions or other		and furs	. no li lbnot		nnearpq.			
		Sec.	Ivoya sm	in the col	nworls so	bluois			*
List removals by	Predator Animal Hunter								

Indicate inventory method (a) used, size of sample area(s), introductions, and eny other pertinent information not specifically requested. 116007

Reported by Chesley M. Dinkins

Species

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Coyote

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RIMARKS:

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INSTRUCTIONS Year ending April 70, 1952

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

SMALL MAMMALS

SPECIES: Las (1)

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Disposition of Eura Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY:

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Applies particularly to those species considered in removal programs. Common Name Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

0 REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided. retrul lacina rotabers vo elavoner teld "

TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested. 116007

Reported by Chesley M. Dinking

3-1754 Form NR-4 (June 1945)

SMALL MANOMALS

Refuge District IV Easements, as listed Year ending April 30, 1952

(1) Species	(2) Density	ldered			Disposit	(5)			
dtroM elemtra	Cover Types & Total  Acreage of Habitat	Acres Per Animal	Hunting Fur	Harvest Predator Control	For Restocking For Research	Share Trapp	share of Total Refuge	Furs Donated Furs Destroyed	Popula- tion
Muskrat  Mink  Skunk  Jack Rabbit  Gottom Tail Rabbit  Muskrat  Mink  Skunk  Weasel  House eat  Gottom Tail Rabbit  Jack Rabbit	bacure the ceneral pion of the second of the second control of the second of the secon	be used ations a	a balan	er ipper icon icon icon icon icon icon icon icon	pressed in sfaced by sfaced by need not rtypes. The swamp, we short gras and Series based on Remarks.	naity to be parent on the to be parent on the to be parent on the total or the tota	T t t t t t t t t t W		60 10 10 10 20 20 8 10 10 4
Bedger edit to femina Muskret Mink Skunk Bedger antwest ad	emoved since April 30 e by Service Fredetory er beadingsliesed.  rapper's share, and reincluding fure taken	he refug ling und umber, t	ist i	malian wa	ASTR BITT		I PO SET TO TO	REMOVALS: DI SPOSITION	70 5 (4) 6 2
leasel Jack Rabbit	Predator Animal Hunter	ch specf	of an oct of the control of the control oct	pelts	o namber o	resonnel. Tota	q n		6

REMARKS:

116007

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested:

Retimated total population of each species reported on as of April 30.

mantarad ranto fur

Reported by Cheeley M. Dinkins

FORM NR-4

Species

James all

Lozzak

o ozuoli

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

SHALL MARKEE

Inso(1) SPECIES:

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Disposition of Mars

Use correct common name. Example: Striped skunk, spotted skunk, shorttailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

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REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

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(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested. 116007

Chesley M. Dinkins Reported by 93

Refuge District IV Basements, as listed April 30, 194 52 LANS - A-701 and

(1) Specie		(2) Density	ola beqt	Sba	Remo	3) vals	-ensi	Y EXORDI	oo doond	sposi	(4) tion	of Fur	ESı	PECI	S	(5)
•	of Worth a Animals North by is now	Cover Types & Total	Acres Per	Hunting	Fur Harvest	Predator Control	For Restocking	For Research	Share :	Trappers, Share		al Refuge s Shipped	ome egu	s Donated	s Destroyed	Total Popula tion
Common N		Acreage of Habitat	Animal	Hun	Fur	Pre	For	For	Number	Tra	Refuge Share	Total Furs S	Refuge	Furs	Furs	
fusicrati fink	s (public	Pretty Reak	Estimat	ed	30	esoria sa ma	ab be	Lister	No 's . 68	80			TI	INS	a I	300
Skunk	s. This	animal by cover type	res per	is mi	0	erique	ed o	ity t	& 64 8-1400	number						10
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makrat	ed bluode	White lake	to enh	bres	0	boda	on ve	Sures	No. 62	Lunion						20
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				1000000		Minds.		OU 11	MONTH 691	ALID SIE						

Indicate inventory method(s) used, size of sample area(s), introductions, and any other Tilent information not specifically requested.

REMARKS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

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Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc.

(Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.) Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year. Also show any removals not falling under heading listed.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS

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